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ABSTRACT

A research study designed to measure understanding of economic terms among 13- and 14-year olds is summarized. For purposes of the study, two tests were constructed: a 10-item questionnaire focusing on definitions of words such as banking, production, costs, money, and wealth, and a compilation of drawings and photographs developed to reflect concrete images of economic concepts. The first questionnaire was administered to a random sample of 100 13- and 14-year olds in a South London school. Twenty follow-up interviews were conducted using the visual test. Results of the two tests were similar. Both showed perceptions among this age group that shopping was associated with need and with prices, that banks were seen strictly as savings institutions, and that wealth was seen in terms of income and money. There was limited understanding of terms such as investment, cost, and living standards. Results indicate that some widely used economic terms are unfamiliar to children of this age and that the use of this terminology without careful introduction will make the subject matter difficult to understand. (LP)

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## THE MEANINGS ASSIGNED TO SOME ECONOMIC TERMS: A CASE STUDY OF SOME 13—14 YEAR OLD PUPILS

by

DAVID J. BROWN

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Series Editor: Dr David J. Whitehead
Department of Economics, Geography and Business Education
Institute of Education
20 Bedford Way
London WC1H 0AL

# The Meanings Assigned to some Economic Terms: A Case Study of some 13 - 14 Year Old Pupils

by

David J. Brown, B.A. (Econ.)., P.G.C.E., M.A.

## Summary

This study attempts to relate understanding of economic terms to the meaning of the terms given by students. These meanings are then compared with conventional ones held by economic educators. The practical value of this research depends on the extent to which it indicates possible starting points for teaching economics to this age group.

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## INTRODUCTION

This study attempts to relate understanding of economic terms to the meaning of the terms given by students. These meanings are then compared with conventional ones held by economic educators. The practical value of this research depends on the extent to which it indicates possible starting points for teaching economics to this age group.

## THE RESEARCH DESIGN

Two tests for meanings were constructed. The first was a 10 item questionnaire based upon the work of Ryba (1983) (see overleaf). Some of his items were replaced by questions on production, banking, costs, money and wealth.

The second test was based on the work of Watts (1983). This used drawings and photographs in interviews as a follow up study after the questionnaire had been completed. This test was used to clarify answers given in the questionnaire and, as it was a deeper investigation into meanings, it acted as a check on these answers. If children of 13 and 14 years generally think at the 'concrete' level, then tests based upon concrete visual images would be an effective way of finding meanings. A 27 item picture test was therefore devised, illustrating the following terms: shops and shopping; production; banking; living standards; wealth; costs; and money (see below). These terms were chosen as they are commonly found in any economics course, related as they are to fundamental aspects of economics - Production, Consumption and Wealth.

The questionnaire was given to 100 third year pupils in one South London comprehensive school. Twenty follow-up interviews were conducted. The decision to test 3rd year pupils was taken for two reasons. First, as in many secondary schools, economics at the school chosen initially appears in the curriculum as a separate subject in the 4th year. In this year, basic economic terms and ideas are introduced. A study of the meanings 3rd year pupils have of these terms could indicate the direction that teaching should take in the 4th year. Formal economic education could build upon the understanding that has already developed informally. The transition from 'common sense' to economic understanding should be facilitated by beginning with the perceptions held by the children.

The second reason was that information would be gathered about an age group which does not normally study economics in a formal way. This information would be useful in designing a course for these pupils. If economics is to be extended into the secondary school curriculum, then information about the perceptions and misconceptions of younger pupils would be useful.

During December 1983, one hundred randomly selected 3rd year pupils completed the questionnaire. This represented 1 in 3 of all 3rd year pupils at the school. The interviews were conducted during March 1984 with 20 randomly selected pupils, these being a sub-sample of the original one.

THE QUESTIONNAIRE USED IN THIS STUDY

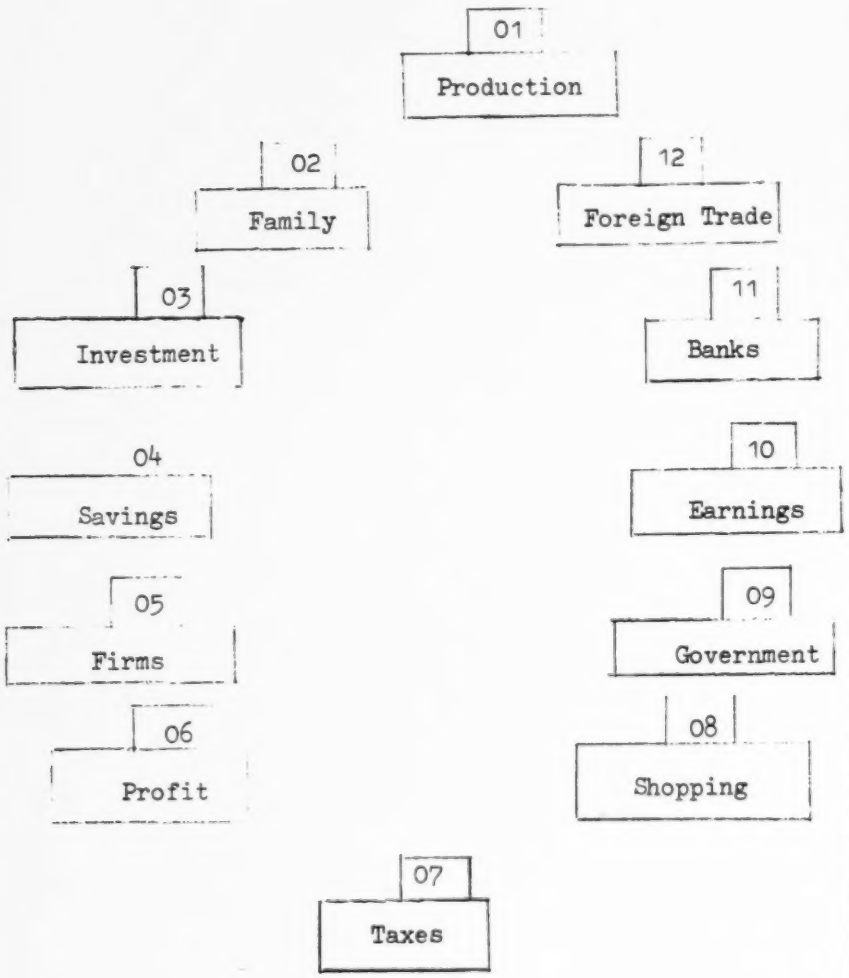
Question 1

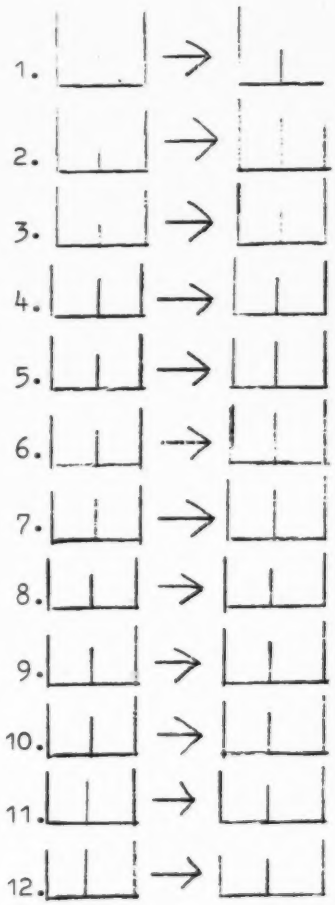
Write in the boxes on the right hand side of the page, the code numbers of the 8 items which, in your opinion, best represent the GOOD LIFE.

| | | |
|---|---|---|
| 01. | The total value of goods and services purchased. | 1. |
| 02. | Working conditions. | 2. |
| 03. | Leisure activities | 3. |
| 04. | The road system | 4. |
| 05. | National income per inhabitant. | 5. |
| 06. | A clean and quiet neighbourhood. | 6. |
| 07. | Road safety. | 7. |
| 08. | The cost of renting or buying a house. | 8. |
| 09. | Income level. | |
| 10. | Consumer information. | |
| 11. | The length of schooling. | |
| 12. | Money spent on social services. | |
| 13. | A comfortable home. | |
| 14. | Job security. | |
| 15. | Money spent on leisure activities. | |
| 16. | The cost of education. | |
| 17. | Unemployment benefits. | |
| 18. | Health. | |
| 19. | Money spent in preventing pollution. | |
| 20. | Social justice. | |

Question 2

1. Draw arrows to link up any of the words below which you think are connected to any other.
2. The same word can be linked with more than one other word.
3. Do not draw more than 12 arrows.
4. Write the numbers of the linked words in the boxes on the right.



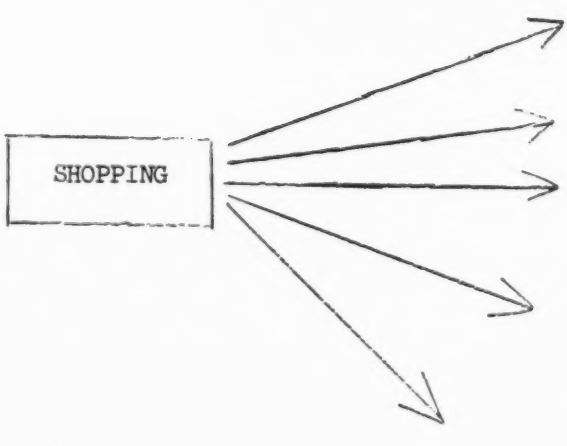



Question 3

1. Choose FIVE of the words listed below which fit best with understanding of the word SHOPPING.
2. Write each word chosen on one of the dotted lines and write its number in the box.

LIST

| | | | |
|---|---|---|---|
| 01. | Luxuries | 10. | Lifestyle |
| 02. | Choice | 11. | Spending |
| 03. | Money | 12. | Temptation |
| 04. | Advertising | 13. | Leisure |
| 05. | Freedom | 14. | Prices |
| 06. | Gifts | 15. | Usefulness |
| 07. | Fashion | 16. | Savings |
| 08. | Food | 17. | Necessities |
| 09. | Enjoyment | 18. | V.A.T. |



## Question 4

1. Choose EIGHT of the words listed below which fit best with your understanding of the word PRODUCTION.

2. Write each word chosen on the dotted lines and write its number in the box.

LIST

| | | |
|---|---|---|
| 01. Factories | 11. Profit | 1. ___ |
| 02. Farming | 12. Shops | 2. ___ |
| 03. Goods | 13. Machines | 3. ___ |
| 04. Investment | 14. Hospitals | 4. ___ |
| 05. Wealth | 15. Land | 5. ___ |
| 06. Making things | 16. Money | 6. ___ |
| 07. Drilling for oil | 17. Workers | 7. ___ |
| 08. Offices | 18. Raw materials | 8. ___ |
| | 19. Costs | |
| | 20. Work | |

## Question 5

Write in the boxes on the right hand side of the page, the code numbers of the FIVE items which, in your opinion, best represent the term BANKING.

| | | |
|---|---|---|
| 01. Money | 10. Trade | 1. ___ |
| 02. Savings | 11. Wealthy | 2. ___ |
| 03. Borrowing | 12. Friendly | 3. ___ |
| 04. Cheques | 13. Access; Barclaycards | 4. ___ |
| 05. Investment | 14. Helpful | 5. ___ |
| 06. Safe | 15. Good at Listening | |
| 07. Industry | 16. Building Societies | |
| 08. Finance | 17. Midland; Barclays | |
| 09. Loans | | |

## Question 6

1. Choose from the following list those things which in your opinion explain the difference in STANDARDS OF LIVING between:

   1. Your own country, United Kingdom
   2. The U.S.A.
   3. A less developed Third World country.

2. The same phrase can be used for more than one comparison.

3. Write the numbers of the phrases you have chosen in the boxes below.

LIST

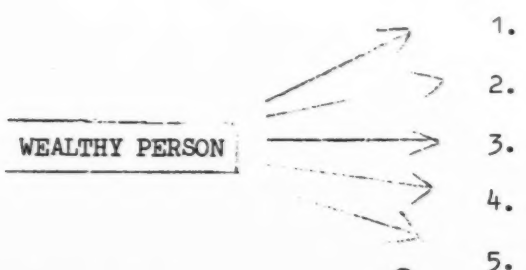
01. Income level
02. National customs
03. Price level
04. Consumer habits
05. The level of industrial development
06. The role of government
07. Advertising
08. Working conditions
09. Climate
10. Retailing organisation
11. Technology
12. Education
13. Consumer information
14. Natural resources

| COMPARISONS | For each comparison write in the spaces below up to four things which best explain the difference in standards of living between the countries: |
|---|---|
| 1. U.S.A./ United Kingdom | |
| 2. A Third World country/U.S.A. | |
| 3. United Kingdom/Third World country | |

Question 7

Choose FIVE of the items below which, in your opinion, would make a Wealthy Person.

01. High wages
02. Assets
03. Good education
04. High income
05. Secure job
06. Big house
07. High profits
08. Leisure time
09. Diamonds
10. Good hospital nearby
11. Yacht
12. Money
13. Inheritance
14. Owning stocks and shares
15. Working hard
16. Bank Account
17. Gold
18. Owning a factory



Question 8

Write in the boxes on the right hand side of the page, the code numbers of the FIVE items which best fit your understanding of the term COSTS.

| | | | | | |
|---|---|---|---|---|---|
| 01. | Raw materials | 10. | Prices | 1. | |
| 02. | Taxes | 11. | Bank loan | | |
| 03. | Wages | 12. | Machines | 2. | |
| 04. | Petrol | 13. | Land | | |
| 05. | Advertising | 14. | Electricity | 3. | |
| 06. | Workers | 15. | Profit | | |
| 07. | Pollution | 16. | Waste | 4. | |
| 08. | Rent | 17. | Chimney smoke | | |
| 09. | Energy | 18. | Unemployment | 5. | |

Question 9

Write in the boxes on the right hand side of the page, the code numbers of the first EIGHT ITEMS which best fit with your understanding of the word MONEY.

| | | | | | |
|---|---|---|---|---|---|
| 01. | Good Life | 11. | A job | 1. | |
| 02. | Wages | 12. | Savings | | |
| 03. | Notes and coins | 13. | Purchasing power | 2. | |
| 04. | Banking | 14. | Pleasure | | |
| 05. | Wealth | 15. | Medium of exchange | 3. | |
| 06. | Production | 16. | Access card | | |
| 07. | Cheques | 17. | Choice | 4. | |
| 08. | Hard work | 18. | Earnings | | |
| 09. | Profit | 19. | Family | 5. | |
| 10. | Taxes | 20. | Shopping | | |
| | | | | 6. | |
| | | | | 7. | |
| | | | | 8. | |

Question 10

Here you are asked to make groups of words from the list below:

1. Cross out the words which you do not understand.
2. Make groups with the words which you think are connected.
3. Form at least two groups.
4. Put two to six words in each group .

5. The same word can be used in as many groups as you like.

6. Give a title to each of the groups.

LIST

| | | |
|---|---|---|
| 01. Prices | 08. Spending | 15. Savings |
| 02. Work | 09. Costs | 16. Leisure |
| 03. Consuming | 10. Banking | 17. Production |
| 04. Income | 11. Profit | 18. Selling |
| 05. Capital | 12. The Good Life | 19. Investment |
| 06. Needs | 13, Wealth | 20. Buying |
| 07. Borrowing | 14. Money | |

Put down the code number of the word and the corresponding word

GROUP 1 TITLE:

GROUP 3 TITLE:

GROUP 2 TITLE:

GROUP 4 TITLE:

## THE PILOT STUDY

A pilot study using the research materials was conducted during October 1983. The questionnaire was completed by 7 fourth and 13 sixth formers, and interviews using the drawings and photographs were held with 4 fourth and 6 sixth formers. The format and instructions of the tests were clearly understood, so no major changes were necessary for the main tests. The pilot interviews were useful in clarifying the wording of questions e.g. using the terms 'rich' and 'poor' rather than more or less wealthy. Also it transpired that the question "What is the cost of producing sweets?" led the interviewees to identify costs of production. The question "What do you think the sweets cost?" received a very different response.

Minor changes were also made to the questionnaire. The term 'Good Life' might have been ambiguous, given the TV programme of the same name. However, when questioned, a fourth year class said they did not know of the programme. The term was therefore retained. Other changes included replacing manufacturing with making things (Q4); introducing the terms industry, machines and costs (Q4); replacing wealth with wealthy person in question 7. The terms taxes, savings, earnings, family and shopping were introduced to question 9, giving a cross reference to question 2. Although only 12 respondents answered question 10 completely, it was retained as the answers supported others found elsewhere.

## THE RESULTS AND PRELIMINARY DISCUSSION OF THE QUESTIONNAIRE

These results are reported in the order of appearance in the questionnaire. They are presented in tabular form and each table is followed by a discussion of the main points observed.

Question No. 1 "Which eight items best represent the good life?"

Table 1: Percentage of respondents choosing each term to represent the 'Good Life'

| | | | |
|---|---|---|---|
| Health | 94 | Money spent preventing pollution | 36 |
| Comfortable Home | 78 | Income Level | 32 |
| Clean and Quiet Neighbourhood | 68 | Cost of Education | 25 |
| Job Security | 63 | Unemployment Benefits | 25 |
| Leisure Activities | 62 | Money spent on leisure activities | 24 |
| Working Conditions | 57 | Road System | 17 |
| Social Justice | 45 | National Income per Inhabitant | 16 |
| Cost of Renting/ Buying a House | 41 | Consumer Information | 15 |
| Length of Schooling | 38 | Total Value of Goods & Services Purchased | 13 |
| Road Safety | 37 | Money spent on Social Services | 13 |

The most surprising feature of these results is the low priority given to conventional measurements of 'the good life'. National Income per

head and income level were chosen by 16% and 32% respectively. Thirteen per cent chose value of goods and services purchased. Health, however, was chosen by nearly the whole sample - 94%. Home and neighbourhood was selected by 78% and 68% respectively. Leisure is seen as important, and job security was chosen by 63%. The length and cost of schooling is not seen as so important. It is probably taken for granted and not seen as particularly pleasurable by many of these pupils. Social Justice was chosen by 45% - a high response rate given the difficult nature of the term.

Initially these results show a preference for non-monetary aspects of the good life rather than the conventional indicators. This may reflect the obscurity of terms like National Income. It is possible, though unlikely, that factors like money and income are unimportant for this age range. A closer study of the results, however, reveals that the items most strongly preferred - health, home, neighbourhood - are of a personal nature. Children have direct experience of these items. The other two items chosen by over half the sample relate to jobs - job security and working conditions. Although 13 and 14 year olds may not have direct experience of work, they may believe that having a job is important.

It is also possible that money is an implicit indicator of the good life. A job is important because money is earned. This money is used to buy a home in a quiet neighbourhood and to furnish it comfortably. In this way money becomes crucial to these children's perceptions of a good life.

Question No.2 This asked for connections to be drawn between 12 economic terms. These results were analysed in four ways.

Table 2: Number of times each term used in a connection

| | | | |
|---|---|---|---|
| Banking | 207 | Investment | 165 |
| Earnings | 196 | Foreign Trade | 159 |
| Firms | 175 | Government | 158 |
| Family | 173 | Savings | 156 |
| Taxes | 172 | Profit | 151 |
| Production | 171 | Shopping | 145 |

These figures illustrate the significance that each term has for the sample. They show the important role of banks and earnings. However, the reliability of these results must remain in doubt because of the position of the term shopping. Shopping is a significant activity but one with limited connections with other activities. Banks are connected more often but many of these connections are weak. This, rather than their significance, accounts for the relative scores of the two terms.

This becomes apparent when each connection was counted. These results are found in Table 3.

Table 3: The number of times each connection was made

| | | | |
|---|---|---|---|
| Banks & Savings | 78 | Earnings & Production | 9 |
| Family & Shopping | 75 | Taxes & Shopping | 9 |
| Government & Taxes | 72 | Foreign Trade & Taxes | 9 |
| Banks & Investment | 65 | Earnings & Investment | 9 |
| Production & Firms | 51 | Shopping & Production | 9 |
| Production & Foreign Trade | 42 | Investment & Firms | 8 |
| Family & Earnings | 40 | Banks & Earnings | 8 |
| Firms & Profit | 34 | Government & Profit | 7 |
| Foreign Trade & Firms | 28 | Firms & Taxes | 7 |
| Production & Profit | 27 | Savings & Government | 7 |
| Earnings & Profit | 27 | Taxes & Production | 7 |
| Foreign Trade & Government | 26 | Earnings & Foreign Trade | 6 |
| Earnings & Taxes | 25 | Family & Investment | 5 |
| Investment & Savings | 23 | Family & Banks | 5 |
| Savings & Earnings | 23 | Investment & Taxes | 5 |
| Profit & Taxes | 20 | Family & Firms | 5 |
| Firms & Earnings | 20 | Profit & Savings | 5 |
| Banks & Profit | 19 | Family & Government | 4 |
| Foreign Trade & Profit | 19 | Foreign Trade & Shopping | 4 |
| Foreign Trade & Investment | 17 | Banks & Firms | 4 |
| Profit & Shopping | 15 | Banks & Taxes | 2 |
| Shopping & Earnings | 15 | Savings & Taxes | 2 |
| Firms & Government | 15 | Production & Government | 2 |
| Savings & Shopping | 14 | Shopping & Firms | 2 |
| Family & Taxes | 14 | Banks & Government | 2 |
| Government & Investment | 13 | Family & Profit | 1 |
| Investment & Profit | 12 | Foreign Trade & Family | 1 |
| Earnings & Banks | 12 | Production & Savings | 1 |
| Family & Production | 12 | Shopping & Investment | 1 |
| Family & Savings | 11 | Firms & Savings | 1 |
| Production & Investment | 10 | Production & Banks | 1 |
| Earnings & Government | 10 | Banks & Shopping | 1 |

It can now be seen that shopping has an important association with one other term - the family, but banking is connected with considerably more terms, accounting for its high score in Table 2.

It can be argued, however, that Investment is seen as another term for saving. Government is strongly associated with the negative aspects of taxation, rather than being seen in a more positive light. Over half the sample connected firms and production and a surprisingly high number - 42% - connected foreign trade with production. However, only one person connected shopping with banking. Although these children would not have bank accounts, it is still surprising that the association between shopping and cheques and credit is not more noticeable. The important connection between banks and production and firms also goes largely unnoticed.

The third method of analysis investigated each term to see how often the other terms were connected to it. Tables 4 - 15 report these results.

Table 4: The number of times 'Production' was connected to the other terms

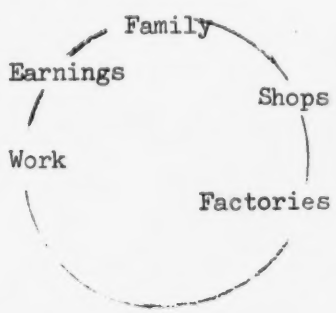
| | | | |
|---|---|---|---|
| Firms | 51 | Shopping | 9 |
| Foreign Trade | 42 | Taxes | 7 |
| Profit | 27 | Government | 2 |
| Family | 12 | Savings | 1 |
| Investment | 10 | Banks | 1 |
| Earnings | 9 | | |

This table shows that production is mainly associated with firms and, to a lesser extent, profit. The connection with foreign trade is surprising. Production is not however seen to be connected with banks or savings. These answers show that the most obvious connections have been made, whereas the less direct have been ignored. However, the results do not reveal the real meanings of this term beyond showing that production is undertaken by firms for a profit.

Table 5: The number of times 'The Family' was connected to the other terms

| | | | |
|---|---|---|---|
| Shopping | 75 | Banks | 5 |
| Earnings | 40 | Firms | 5 |
| Taxes | 14 | Government | 4 |
| Production | 12 | Profit | 1 |
| Savings | 11 | Foreign Trade | 1 |
| Investment | 5 | | |

Table 5 shows the strong connection between the family and shopping and the family and earnings. This indicates that a sound basis exists for introducing the study of shops through these relationships. The connection with earnings could be used as a basis for a simple circular flow model along the following lines:




As will be seen later, the connection between earnings and work is also a strong one.

Table 6: The number of times 'Investment' was connected to the other terms

| | | | |
|---|---|---|---|
| Banks | 65 | Firms | 8 |
| Savings | 23 | Family | 5 |
| Foreign Trade | 17 | Taxes | 5 |
| Government | 13 | Shopping | 1 |
| Production | 10 | Profit | 0 |
| Earnings | 9 | | |

Table 6 shows the connection between Investment, Banking and Savings. The connection with production is weak, suggesting it is used as another term for savings which earn interest rather than in its strict economics sense. One implication is that teachers of economics must be careful to state clearly the correct meaning of this term and be aware how strongly held other views of investment are.

Table 7: The number of times 'Savings' was connected to the other terms

| | | | |
|---|---|---|---|
| Banks | 78 | Production | 1 |
| Investment | 23 | Firms | 1 |
| Earnings | 23 | Taxes | 0 |
| Shopping | 14 | Government | 0 |
| Family | 11 | Foreign Trade | 0 |
| Profit | 5 | | |

The strong connection between savings and banks is revealed in Table 7. Investment is the next most widely connected term, followed by earnings and shopping. The more indirect association with production and firms again remains largely unnoticed.

Table 8: The number of times 'Firms' was connected to the other terms

| | | | |
|---|---|---|---|
| Production | 51 | Taxes | 7 |
| Profit | 34 | Family | 5 |
| Foreign Trade | 28 | Banks | 4 |
| Earnings | 20 | Shopping | 2 |
| Government | 15 | Savings | 1 |
| Investment | 8 | | |

The connection between firms and production is shown in Table 8. Profit and foreign trade are also connected with firms, followed by earnings.

This supports the simple circular flow of income model which was identified earlier.

Table 9: The number of times 'Profit' was connected to the other terms

| | | | |
|---|---|---|---|
| Firms | 34 | Government | 7 |
| Production | 27 | Savings | 5 |
| Earnings | 27 | Family | 0 |
| Taxes | 20 | Shopping | 0 |
| Banks | 19 | Foreign Trade | 0 |

While profit is connected to both firms and production, Table 9 also shows it being connected to earnings. There are two possible explanations for this. Either profit is seen as the earnings of a firm - as a factor income - or some of the firm's profit is seen as being paid to others, in the form of wages for example. Other results elsewhere indicate that not only are the earnings of a firm perceived as profit, but the term is used generally to include all earnings. Economics teachers must again be aware that when they use the terms profit and earnings, their pupils may have very different ideas about what these terms mean.

Table 10: The number of times 'Taxes' was connected to the other terms

| | | | |
|---|---|---|---|
| Government | 72 | Firms | 7 |
| Earnings | 25 | Production | 7 |
| Profit | 20 | Investment | 5 |
| Family | 14 | Banks | 2 |
| Shopping | 9 | Savings | 2 |
| Foreign Trade | 9 | | |

Table 10 shows, not surprisingly, that the main connection with taxes is the Government. The table also indicates the less noticeable effects of indirect compared to direct taxes. The connection between taxes and earnings is much stronger than that between taxes and shopping.

Table 11: The number of times 'Shopping' was connected to the other terms

| | | | |
|---|---|---|---|
| Family | 75 | Foreign Trade | 4 |
| Profit | 15 | Firms | 2 |
| Earnings | 15 | Investment | 1 |
| Savings | 14 | Banks | 1 |
| Taxes | 9 | Government | 0 |
| Production | 9 | | |

The direct, personalised, connection between shopping and the family is shown in Table 11. The connection between shopping and production is not widely reported, while the nature of the profit connection is not clear. Although it is possible that shops are seen as making profits on their sales, this connection also supports the view expressed earlier - that profit is perceived in terms of earnings, and is therefore linked with shopping.

The connection reported earlier between Government and taxes is shown in Table 12. The more surprising connections are between

Table 12: The number of times 'Government' was connected to the other terms

| | | | |
|---|---|---|---|
| Taxes | 72 | Savings | 7 |
| Foreign Trade | 26 | Family | 4 |
| Firms | 15 | Production | 2 |
| Investment | 13 | Banks | 2 |
| Earnings | 10 | Shopping | 0 |
| Profit | 7 | | |

the government and foreign trade and firms. While it might be tempting to offer an economic explanation for this, a more realistic view is that because government is largely an unknown quantity, it is given wide ranging powers that it does not possess. However, the perception is still mainly a negative one, and the more positive connection between government and the family through, for example, child benefit, is largely unrecorded. This might reflect a change in attitudes, more noticeable in recent years, whereby the government is seen as a burden on society rather than as a promoter of people's welfare.

| Table 13: The number of times 'Earnings' was connected to the other terms | | | |
|---|---|---|---|
| Family | 40 | Banks | 12 |
| Profit | 27 | Government | 10 |
| Taxes | 25 | Production | 9 |
| Savings | 23 | Investment | 9 |
| Firms | 20 | Foreign Trade | 6 |
| Shopping | 15 | | |

Table 13 shows the strong connections between earnings and the family, profits and taxes. The personalised view is once again very strong. However, the source of earnings, production, is not widely connected to the term.

| Table 14: The number of times 'Banks' was connected to the other terms | | | |
|---|---|---|---|
| Savings | 78 | Firms | 4 |
| Investment | 65 | Taxes | 2 |
| Profit | 19 | Government | 2 |
| Earnings | 12 | Production | 1 |
| Foreign Trade | 8 | Shopping | 1 |
| Family | 5 | | |

A personalised view of banks is strongly shown in Table 14. They are almost solely perceived in their role as savings institutions. Their wider economic role as financial intermediaries is not seen, hence the low connections with firms, production and even shopping. This directs attention to an important area of study. While it is essential to base a banking course for this age group upon their perceptions, limiting such a course to the consumer aspects of banking (cheques, savings, etc.) ignores the vital economic function performed by banks. These findings suggest that an economics course for this age group should concentrate on the economic rather than the personal aspects of banking.

| Table 15: The number of times 'Foreign Trade' was connected to the other terms | | | |
|---|---|---|---|
| Production | 42 | Banks | 8 |
| Firms | 28 | Earnings | 6 |
| Government | 26 | Shopping | 4 |
| Profit | 19 | Family | 1 |
| Investment | 17 | Savings | 0 |
| Taxes | 9 | | |

Table 15 shows the connection reported earlier between foreign trade and production, firms and government.

The connections with production and firms implies that foreign trade is perceived in terms of exports. There is only a very weak association with imports via the connection with shopping. This is surprising given the level of import penetration in the consumer goods sector. If, however, the term 'trade' is perceived essentially as 'selling', then the reason for this becomes clear.

The fourth method of analysis drew lines connecting the terms. The above tables indicate that the terms were perceived in a personalised way.

This last method of analysis developed this idea. Initial study of those connections made more than 50 times revealed the following 'map'.

(i) Banking - Savings
Investment

(ii) Family - Shopping

(iii) Firms - Production

(iv) Taxes - Government

The analysis shows that four unrelated economic 'worlds' exist, roughly associated with the financial, personal, industrial and public sectors of the economy. The inter-relationships between the sectors are not seen.

Study of those connections made more than 30 times revealed the following map:

(i) Banking — Savings
Investment

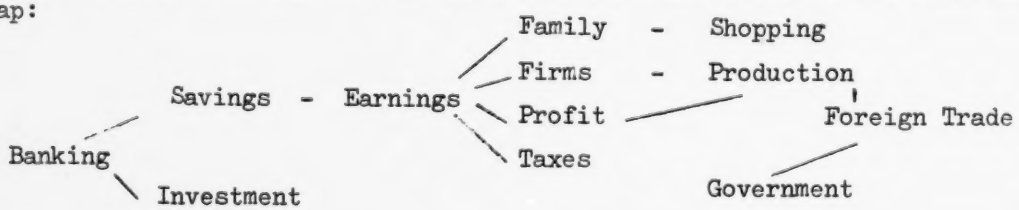
(ii) Family — Shopping
Earnings

(iii) Firms - Production - Foreign Trade
Profit

(iv) Government

Although some additions have taken place the sectors still remain clearly separate.

Study of those connections made more than 20 times revealed the following map:




Inter-relationships between the sectors are now found, but these connections were only made by a relatively small number of the sample. Ryba hypothesises that such inter-relationships will develop with maturation. However, it is clearly one of the most important functions of

economic teaching to reveal these inter-relationships. The linking items have a crucial role in this as they integrate the separate sectors, making a complete system. The role of earnings revealed in these answers needs further investigation, but they could arguably be used as a major course organiser, providing the framework within which further learning could take place.

This last method of analysis showed promising results, but although interesting connections were revealed, not much progress was made in revealing the meanings assigned to these terms.

Question 3. "Choose five terms which fit best your understanding of the term 'shopping."

Table 16: % respondents choosing each term to represent 'shopping'

| | | | |
|---|---|---|---|
| Money | 80 | Choice | 19 |
| Food | 75 | Enjoyment | 16 |
| Prices | 58 | Temptation | 15 |
| Spending | 55 | Savings | 9 |
| Necessities | 37 | Advertising | 9 |
| VAT | 32 | Freedom | 7 |
| Gifts | 25 | Lifestyle | 6 |
| Fashion | 25 | Leisure | 5 |
| Luxuries | 24 | Usefulness | 4 |

These results show that shopping is perceived in terms of money, prices, spending and buying food. Shopping is an activity that enables necessities rather than luxuries to be acquired. It is a rather tedious activity. A third of the sample selected VAT, despite the poor connection shown between shopping and government in Table 11. Only one quarter included fashion in their choices, less than expected considering how fashion-conscious this age group is reported to be. Shopping is not seen as being associated with leisure or usefulness. Only 9% included savings in their choices, perhaps reflecting personal experience of purchasing things from current income rather than from savings. Given the widespread use of advertising, it was surprising that only 9% selected this term. This might be because it is not consciously noticed as it is such a part of modern life. From this discussion it can be concluded that shopping is seen as a rather dull activity, whereby necessities such as food are purchased. It is interesting to speculate why shopping is perceived in this way. The purchase of more exciting items may be seen as something quite separate - leisure perhaps.

Question 4. "Which 8 items best fit your understanding of the term 'production'?"

Table 17: % respondents choosing each term to represent 'production'

| | | | |
|---|---|---|---|
| Factories | 76 | Raw Materials | 35 |
| Industry | 73 | Costs | 33 |
| Work | 68 | Drilling for Oil | 29 |
| Profit | 55 | Farming | 28 |
| Workers | 55 | Wealth | 25 |
| Making things | 55 | Land | 24 |
| Machines | 54 | Coal Mining | 21 |
| Money | 46 | Shops | 13 |
| Goods | 45 | Offices | 12 |
| Investment | 41 | Hospitals | 10 |

Table 17 shows clearly that production is perceived as making things, involving factories, machines and industry. It is associated with profit, work and workers, although only manual work is implied. The tertiary sector: shops, offices and hospitals, is not seen as production. More surprising is the relatively low numbers seeing primary industry as production. Coal mining, farming and drilling for oil were chosen by only approximately a quarter of the sample. If it is important to define production to include the three sectors, these results highlight the need for economics teachers to emphasise continually that production entails all types of activities, not just those associated with manufacturing industry. This is obviously important, given the absolute decline in this sector in the economy. The difficulty of this task must not be underestimated. The idea that producers make things, often associated with a masculine image, is widely held. The fact that production includes other occupations therefore needs constant reinforcement.

Question 5. "Which 5 items best represent the term 'banking'?"

Table 18: % respondents choosing each term to represent 'banking'

| | | | |
|---|---|---|---|
| Money | 85 | Midland, Barclays | 15 |
| Savings | 76 | Building Societies | 12 |
| Investment | 63 | Wealthy | 7 |
| Loans | 61 | Trade | 6 |
| Cheques | 54 | Industry | 6 |
| Borrowing | 34 | Friendly | 6 |
| Finance | 30 | Helpful | 3 |
| Safe | 18 | Good at listening | 3 |
| Access/Barclaycard | 17 | | |

Table 18 supports the previously noted connections between banking and money, savings and investment. Cheques were selected by 54% while only

17% chose the credit card item. While 61% included loans in their choices, only 34% included borrowing. Although lending is the more direct activity, the confusion between lending and borrowing - "Can I lend your pen?" - is perhaps revealed here. Bank advertising does not seem to be very effective considering the low level of response to their 'images' of being helpful, friendly and good at listening. Only 6% saw banks as being connected with industry and trade. This supports the view discussed earlier, that banks are seen from the consumers' point of view - the aspect of banking which is most personally experienced.

Question 6. This asked respondents to identify four terms which best explained the difference in living standards between

1) the USA and the UK
2) a third world country and the USA
3) the UK and a third world country

Tables 19, 20 and 21 show the results.

Table 19: % respondents choosing each term to illustrate the difference in living standards between the USA and UK

| | | | |
|---|---|---|---|
| Role of government | 48 | Level of industrial development | 26 |
| Price level | 40 | Working conditions | 23 |
| Technology | 39 | National customs | 23 |
| Climate | 39 | Advertising | 20 |
| Income level | 37 | Consumer habits | 17 |
| Education | 35 | Retailing organisation | 7 |
| Natural resources | 31 | Consumer information | 7 |

Table 20: % respondents choosing each term to illustrate the difference in living standards between a third world country and the USA

| | | | |
|---|---|---|---|
| Education | 53 | National customs | 21 |
| Working conditions | 48 | Consumer Habits | 18 |
| Level of industrial development | 48 | Natural resources | 18 |
| Technology | 47 | Advertising | 15 |
| Income level | 44 | Role of government | 14 |
| Price levels | 26 | Retailing organisation | 11 |
| Climate | 23 | Consumer information | 11 |

Table 21: % respondents choosing each term to illustrate the difference in living standards between the UK and a third world country

| | | | |
|---|---|---|---|
| Education | 53 | Role of government | 25 |
| Level of Industrial development | 50 | Price level | 21 |
| Income level | 49 | National customs | 20 |
| Working conditions | 44 | Retailing organisation | 13 |
| Climate | 32 | Consumer habits | 13 |
| Technology | 32 | Advertising | 12 |
| Natural resources | 29 | Consumer information | 11 |

(Note. In these 3 tables, n = 90)

These results show that there is broad agreement as to the factors which do not explain differences in living standards between these countries. These are the consumer-orientated factors - consumer information, retailing organisation, consumer habits, advertising and even national customs. It can be argued that these terms, apart from advertising, are unfamiliar to this age group. Later results show that the term consumer/consuming has no relevance and the same doubts concern the term retailing.

There is a broad consensus on the factors that explain differences in living standards between third world countries and industrial ones. These are education, industrial development, income level and working conditions. There are possibly two reasons why education was preferred to the more economic terms. These may be personalised responses. The image of poor, uneducated third world children is strong, and can easily be compared with children's own experience in this country. Alternatively, education may have been chosen because it is seen as necessary in order to obtain a well-paid job.

Despite this broad agreement, certain differences emerge when comparing a third world country with the USA and the UK. While nearly 50% saw technology as a factor explaining differences between a third world country and the USA, only 32% saw it as significant in explaining differences between a third world country and the UK. It is possible that although the USA is perceived to be a 'high tech' country, the UK's level of technology is more like that of a third world country. The UK is often portrayed in the media as a poor industrial performer compared to the more dynamic, innovative USA. Some support is given to this view, as 39% identified technology as one explanation of differences between the USA and the UK.

When the influences of climate is examined, the following is seen. While 23% saw it as a factor leading to differences between a third world country and the USA, and 32% as a factor in differences between a third world country and the UK, 39% saw it as an important difference between the UK and the USA. We would normally assume that climate is more of a distinguishing factor between an industrial and a third world country, than between two industrial countries.

A similar but less well defined pattern emerges when the influence of natural resources is examined. Thirty-one per cent see this as an important difference between the UK and the USA, compared to the 29% and 23%

seeing it leading to differences between a third world country and the UK and USA.

The same pattern is found if the influence of government is investigated. Forty-eight per cent chose this as a difference between the UK and the USA respectively. If nothing else, these results support the arguments for a comparative economics course which aims to explain such relationships.

In summary, while there is broad agreement that differences in living standards are associated with education, industrial development, income levels, working conditions and technology, there is no indication of cause and effect. It is not clear, for example, whether education causes, or results from, higher living standards. The influence that climate, resources and government have on living standards is not the conventional one. There is a need for formal economics education concerning these matters.

Question 7. "Which 5 terms would make a wealthy person?"

Table 22: % respondents choosing each term to illustrate why a person is wealthy

| | | | |
|---|---|---|---|
| High wages | 66 | Working hard | 24 |
| Secure job | 52 | Assets | 19 |
| Money | 49 | Gold | 19 |
| Good education | 41 | Diamonds | 18 |
| High profits | 39 | Big house | 16 |
| Inheritance | 34 | Bank account | 14 |
| Owning Stocks & Shares | 32 | Leisure time | 9 |
| High income | 31 | Good hospital nearby | 5 |
| Owning a factory | 28 | Yacht | 2 |

Table 22 shows the strong connection between income and wealth. Wealth is perceived in terms of money, not as assets. Even the more conspicuous aspects of wealth - gold, diamonds, a big house - were chosen by less than 20%. Non-monetary aspects of wealth are also identified, especially a secure job and a good education. It can be argued, however, that these also reflect the importance of money. Both are necessary if money and therefore wealth is to be acquired. This argument is supported by the low ratings given to other non-monetary factors like leisure and hospitals.

Although 34% saw wealth and inheritance as being connected (assuming that those who chose the term knew what it meant), indicating a sophisticated view of how wealth is acquired, most saw wealth (money) being acquired through work. There is an implicit assumption that wealth is achieved through individual effort. These may be the views of children in the upwardly mobile working class families that form a large part of the school's catchment area. But it is also apparent that great changes have occurred in the social perceptions of many working people. The reliance on the market in an age of almost unfettered consumerism may have weakened

what has been described as the traditional collective values of working class communities. Wealth and poverty are now more widely seen to be the result of individual behaviour rather than endemic to the economic system. It is worth emphasising that the values and attitudes children bring to the classroom will greatly influence their perceptions of the subject. The way teachers ought to respond to this, however, is not part of the present study.

Question 8. "Choose 5 items that best represent the term 'costs'."

Table 23: % respondents choosing each term to illustrate 'costs'

| | | | |
|---|---|---|---|
| Taxes | 71 | Advertising | 19 |
| Prices | 67 | Profit | 19 |
| Rent | 59 | Waste | 16 |
| Wages | 44 | Raw materials | 15 |
| Electricity | 36 | Land | 14 |
| Petrol | 27 | Energy | 14 |
| Unemployment | 27 | Pollution | 12 |
| Bank loan | 24 | Machines | 12 |
| Workers | 21 | Chimney smoke | 2 |

The major surprise contained in Table 23 is that taxes were chosen by 71% of the sample to illustrate costs. This was more than those choosing prices. The idea that 'price' is widely confused with 'cost' has firm foundations. It is commonplace to talk of the cost of an article, when its price is really being considered. An increase in cost is synonymous with a price increase. Even when a distinction is made between costs and prices, there is often the view that if costs rise, prices must also rise by the same amount, profit and output being ignored. Taxes may be a more popular choice because a personalised view of costs has once more been adopted. If costs are being interpreted as items paid for by a household, then it is no surprise that taxes attract such a high response. The inclusion of the term 'rent' supports this view rather than the factor cost idea. Further support for this argument is that wages were chosen by 44%, less than those choosing rent, yet arguably wages are better known as a cost of production. The same argument also applies to the inclusion of electricity and petrol as costs.

Social costs are not readily identified, low responses being given to pollution, waste, and chimney smoke. Unemployment, however, was included by 27%. It is unlikely that this was seen as a social cost borne by the taxpayer. It might be that unemployment is seen as a cost because it is unpleasant - costs being seen as those necessary but unpleasant things that have to be paid. Another explanation is that a personalised view is again being adopted - unemployment is a cost to the individual concerned because redundancy brings a loss of income.

A final observation is that 19% saw profit as a cost, yet this is normally considered as the income of a firm. It is possible that if costs are seen

as things that have to be paid, then profits are also seen in the same way - profits have to be made, paid for even!

To summarise, it seems that costs are perceived in a personalised way, reflecting household, not production costs. Amongst these costs are taxes, prices and rent.

Question 9. Respondents were asked to choose 8 items which best illustrated the term 'money'.

Table 24: % respondents choosing each term to illustrate 'money'

| | | | |
|---|---|---|---|
| Wages | 78 | Access Card | 36 |
| Notes & coins | 75 | Taxes | 32 |
| Savings | 73 | Shopping | 30 |
| Earnings | 73 | Family | 21 |
| A job | 70 | Good life | 17 |
| Cheques | 51 | Purchasing power | 14 |
| Profit | 46 | Pleasure | 14 |
| Banking | 46 | Choices | 13 |
| Wealth | 42 | Production | 12 |
| Hard work | 38 | Medium of exchange | 10 |

Table 24 shows that a personalised view is taken of money. It is seen as notes and coins, and wages and earnings received from employment.

The more abstract functions of money, apart from savings, are not included by many - less than 20% chose purchasing power and medium of exchange. It is unfortunate that more familiar terms were not included amongst the possible choices - prices, buying, spending for example. Later results show that the functions of money can be approached using these more familiar, 'concrete' terms.

Support is also given to other findings. Money is associated with banking, wealth, shopping, working hard and profit. The association with profit, identified by 46%, supports the view that its monetary property, not its economic function, is being considered.

The wider significance of money goes largely unrecorded. Only 12% associated production with money. In this context, banking assumes a vital role of extending economics learning. Although banks are mainly seen as the provider of personal services, they could assume a vital linking role, similar to that of earnings discussed earlier. If the study of banks can be organised so that complex inter-relationships can be revealed, then the concentration on their consumer services is a missed opportunity.

Question 10. This question asked respondents to make four groups from 20 terms, each group consisting of a maximum of 6 terms. Each term could be used more than once. In addition, respondents were asked to give a title to each group they made. There were 78 replies to this question, and many of these were incomplete. However, each term was examined to see how

many times the other terms were associated with it. In this way the meanings assigned to each term might be found, and the results could also be used as a check on previous findings. These results are found in tables 25-46. The figures in brackets at the top of each table refers to the number of times each term was used.

Table 25: Number of times each term was used in a group

| | | | |
|---|---|---|---|
| Money | 136 | Wealth | 75 |
| Income | 87 | Borrowing | 73 |
| Profit | 87 | Banking | 58 |
| Spending | 86 | Selling | 50 |
| Costs | 86 | Needs | 47 |
| Buying | 85 | Leisure | 47 |
| Savings | 84 | Good Life | 43 |
| Prices | 79 | Production | 42 |
| Investment | 77 | Capital | 41 |
| Work | 76 | Consuming | 20 |

Table 25 whows how many times each term was used. The importance that money has in a modern economy is clearly shown. Only 9 of the respondents did not include money in one of their group, and two of those used it as a group heading. This suggests that an elementary economics course based on the role of money would have relevance for this age group.

Other terms associated with money were also widely used: income; profit; spending; buying; savings etc. The more 'economic' terms like production and capital were used much less often. The term consuming was used least of all. This is surprising considering the number of economics courses using this term, often as an organiser (e.g. the 14-16 project materials). However, the results indicate that this term has little meaning or relevance for this age group. In a subject being studied for the first time, it is important initially to use terms which are familiar to students. In this context the term consuming should be replaced by another: buying or spending for example.

Table 26: Connections with the term Prices (79)

| | | | |
|---|---|---|---|
| Spending | 49 | Wealth | 15 |
| Costs | 46 | Work | 11 |
| Money | 46 | Investment | 9 |
| Buying | 42 | Consuming | 8 |
| Savings | 20 | Banking | 7 |
| Needs | 20 | Production | 5 |
| Income | 20 | Capital | 5 |
| Borrowing | 19 | Good Life | 5 |
| Profit | 17 | Leisure | 2 |
| Selling | 16 | | |

The relationship between prices and spending is clearly shown in Table 26. The connections between prices, costs and money are also shown. The consumer aspects of prices have been chosen in preference to those relating to production. These prices are paid when people spend money and buy things they need. They may also save or borrow money in order to buy things.

Table 27: Connections with the term 'Work' (76)

| | | | |
|---|---|---|---|
| Money | 35 | Saving | 16 |
| Income | 32 | Selling | 15 |
| Production | 25 | Investment | 15 |
| Wealth | 24 | Prices | 11 |
| Profit | 21 | Capital | 10 |
| Leisure | 21 | Borrowing | 10 |
| Needs | 19 | Costs | 10 |
| Good Life | 19 | Banking | 9 |
| Spending | 18 | Consuming | 7 |
| Buying | 18 | | |

Table 27 clearly shows that work is associated with wage-labour. This perception of work ignores unwaged labour, including work performed, mainly by women, in the home. The view that this is not 'real work' is widespread. It can be argued that an economics course ought to challenge this perception so strongly shown here. This is especially true in times of persistently high unemployment. A person's work has a significant effect on self-esteem, self-confidence and status. The loss of paid work has therefore enormous consequences. An economics course that challenges the conventional view of work, and promotes the efficacy of non-paid work may help the individual to retain a sense of worth in the face of enforced idleness. This is not to advocate the desirability of voluntary over paid employment. It is simply that in our society value is normally placed on those things that have a money value. Yet non-paid work also has a value that is often ignored.

The influence of money is also shown in other connections. As work provides money, it is also connected with profit, wealth buying and spending, and satisfying needs. Money is also needed for the good life and leisure, hence their connection with work.

The connection between work and production was also made. This suggests that production could be introduced into an economics course through the idea of work. This has the added advantage of challenging the idea that production is just making things, as a variety of different jobs can be chosen to illustrate work. Some of these could even be examples of non-paid work.

To conclude, these responses show that work is a good organiser for further learning. It breaks across the 'personal' - 'industrial' perceptions of economic life and allows for an examination of the nature of work, which must be important given the present employment situation facing many young people.

| Table 28: Connections with the term 'Consuming' (20) | | | |
|---|---|---|---|
| Money | 10 | Savings | 3 |
| Costs | 9 | Good Life | 3 |
| Prices | 8 | Needs | 3 |
| Spending | 8 | Investment | 3 |
| Work | 7 | Production | 2 |
| Profit | 6 | Borrowing | 2 |
| Leisure | 6 | Capital | 1 |
| Buying | 5 | Selling | 0 |
| Wealth | 5 | Banking | 0 |
| Income | 4 | | |

Table 28 supports the view that the term consuming has little relevance for this age group. Given the low response rate, few comments can be made. These results do, however, support the argument made earlier, that economic activity is seen to be divided into separate areas. The absence of any firm connection between consuming and production illustrates this.

| Table 29: Connections with the term 'Income' (87) | | | |
|---|---|---|---|
| Money | 45 | Prices | 20 |
| Profit | 34 | Leisure | 17 |
| Work | 32 | Needs | 16 |
| Savings | 31 | Costs | 16 |
| Investment | 28 | Capital | 14 |
| Borrowing | 27 | Production | 13 |
| Wealth | 25 | Selling | 11 |
| Banking | 23 | Good Life | 7 |
| Spending | 22 | Consuming | 4 |
| Buying | 21 | | |

Table 29 supports results found elsewhere. Income is perceived in terms of money, and is earned by working. Profit is also seen as income, but this should not necessarily be interpreted as income for the firm. It might refer to any money that is earned. In general, the source of incomes have been considered - profit, work, investment etc. Both saving and investment are probably seen as leading to increased income in the future via interest payments. This emphasis on how income is derived may account for the low number of times spending and buying were connected with it.

| Table 30: Connections with the term 'Capital' (41) | | | |
|---|---|---|---|
| Profit | 16 | Costs | 10 |
| Income | 14 | Banking | 10 |
| Savings | 14 | Spending | 7 |
| Investment | 14 | Selling | 6 |
| Money | 13 | Leisure | 6 |
| Wealth | 12 | Good Life | 6 |
| Production | 11 | Needs | 5 |
| Borrowing | 11 | Prices | 4 |
| Work | 10 | Consuming | 1 |
| Buying | 10 | | |

Capital was, after consuming, the least used term. The impression gained from Table 30 is that it has little meaning for this age group. Those that did use the term see it as either income or savings. Money is invested (saved), and this builds up capital. Interest is paid and this represents a profit.

| Table 31: Connections with the term 'Needs' (47) | | | |
|---|---|---|---|
| Prices | 20 | Selling | 10 |
| Work | 19 | Good Life | 10 |
| Spending | 18 | Profit | 7 |
| Money | 18 | Wealth | 7 |
| Income | 16 | Investment | 6 |
| Buying | 15 | Savings | 6 |
| Costs | 12 | Banking | 5 |
| Production | 12 | Capital | 5 |
| Leisure | 11 | Consuming | 3 |
| Borrowing | 11 | | |

Two main connections with needs are found in Table 31. The term is connected to prices, spending and buying and also to work. It is possible that what is perceived is that prices need to be paid and that work needs to be done. A more likely explanation is that through work, money is earned which enables needs to be satisfied.

| Table 32: Connections with the term 'Borrowing' (73) | | | |
|---|---|---|---|
| Investment | 44 | Capital | 11 |
| Savings | 38 | Needs | 11 |
| Money | 38 | Work | 10 |
| Banking | 33 | Selling | 8 |
| Profit | 31 | Wealth | 6 |
| Income | 27 | Good Life | 5 |
| Prices | 19 | Leisure | 3 |
| Buying | 14 | Production | 3 |
| Spending | 14 | Consuming | 2 |
| Costs | 12 | | |

Table 32 shows that the main connections with borrowing are investment, savings, money and banking. The source of funds, not their use, is therefore being considered. A possible confusion between borrowing and lending is indicated by the connection with profit, this being earned both on money lent and borrowed!

| Table 33: Connections with the term 'Spending (86) | | | |
|---|---|---|---|
| Prices | 49 | Work | 18 |
| Buying | 47 | Profit | 16 |
| Money | 46 | Borrowing | 14 |
| Costs | 37 | Good Life | 12 |
| Wealth | 25 | Consuming | 8 |
| Leisure | 23 | Capital | 7 |
| Selling | 22 | Production | 5 |
| Income | 22 | Banking | 4 |
| Saving | 18 | Investment | 4 |
| Needs | 18 | | |

Table 33 shows the connection with spending. It is seen in terms of buying, prices and money. These directly related consumer terms were preferred to the less direct ones like selling or income. This becomes even clearer when production is investigated. The distinction between the market orientated consumer and the producer, unknown in pre-industrial societies, is clearly shown.

| Table 34: Connections with the term 'Costs' (86) | | | |
|---|---|---|---|
| Prices | 46 | Capital | 10 |
| Spending | 37 | Work | 10 |
| Buying | 34 | Wealth | 9 |
| Money | 28 | Consuming | 9 |
| Income | 16 | Leisure | 9 |
| Selling | 13 | Investment | 8 |
| Needs | 12 | Good Life | 5 |
| Borrowing | 12 | Production | 5 |
| Savings | 12 | Banking | 4 |
| Profit | 12 | | |

Table 34 shows that costs are also interpreted from a personalised consumer-orientated viewpoint. They are not seen as costs of production, but as prices relating to spending and buying. This supports the view expressed earlier that many students in the economics classroom interpret the term 'costs' as 'prices'.

| Table 35: Connections with the term 'Banking' (58) | | | |
|---|---|---|---|
| Money | 36 | Prices | 7 |
| Borrowing | 32 | Selling | 6 |
| Savings | 32 | Buying | 6 |
| Investment | 31 | Needs | 5 |
| Income | 23 | Good Life | 4 |
| Profit | 22 | Spending | 4 |
| Costs | 9 | Costs | 4 |
| Capital | 9 | Leisure | 2 |
| Wealth | 9 | Consuming | 0 |
| Production | 7 | | |

The idea that banks are seen as savings institutions is shown clearly in Table 35. Although there is a strong association with borrowing, connections with buying and spending are not often made. The immediate role of banks is therefore being considered. Hence banks are places where money can be saved or borrowed, but their role as financial intermediaries is not considered.

Table 36 shows that profit is perceived in money terms, and in a personalised way. The relationship between income, savings and profit is clearly shown.

| Table 36: Connections with the term 'Profit' (87) | | | |
|---|---|---|---|
| Money | 46 | Selling | 17 |
| Investment | 39 | Capital | 16 |
| Income | 34 | Spending | 16 |
| Borrowing | 31 | Production | 14 |
| Wealth | 25 | Costs | 12 |
| Savings | 24 | Leisure | 11 |
| Banking | 22 | Good Life | 9 |
| Work | 21 | Needs | 7 |
| Buying | 20 | Consuming | 6 |
| Prices | 17 | | |

However, its connection with production, found in question 2, is not reflected here. This suggests that when given a wide choice, the most obviously personalised aspects of the term are identified.

| Table 37: Connections with the term 'Good Life' (63) | | | |
|---|---|---|---|
| Wealth | 26 | Capital | 6 |
| Leisure | 24 | Production | 6 |
| Money | 21 | Investment | 6 |
| Work | 19 | Prices | 5 |
| Spending | 12 | Borrowing | 5 |
| Savings | 10 | Costs | 5 |
| Needs | 10 | Banking | 4 |
| Profit | 9 | Selling | 4 |
| Buying | 7 | Consuming | 3 |
| Income | 7 | | |

The term 'good life' was used only 43 times, indicating its lack of familiarity. Table 37 shows two main connections are made. It is either seen as leisure (the easy life!) or as wealth. However, to the extent that money is needed for leisure, then the good life becomes the comfortable life, but one needing money. Work therefore becomes necessary, even though this would obviously not be part of the good life.

| Table 38: Connections with the term 'Wealth' (75) | | | |
|---|---|---|---|
| Money | 47 | Investment | 13 |
| Leisure | 28 | Capital | 12 |
| Good Life | 26 | Selling | 10 |
| Profit | 25 | Banking | 9 |
| Spending | 25 | Costs | 9 |
| Income | 25 | Production | 8 |
| Savings | 24 | Needs | 7 |
| Work | 24 | Borrowing | 6 |
| Buying | 17 | Consuming | 5 |
| Prices | 15 | | |

Table 38 shows that wealth is seen as money. The wider meaning of the term, involving capital, production, investment is not considered. Instead, the personalised view prevails. Wealth is money, the good life and leisure.

Table 39: Connections with the term 'Money' (136)

| | | | |
|---|---|---|---|
| Savings | 50 | Work | 35 |
| Wealth | 47 | Costs | 28 |
| Buying | 47 | Selling | 27 |
| Investment | 47 | Leisure | 22 |
| Spending | 46 | Good Life | 21 |
| Profit | 46 | Needs | 18 |
| Prices | 46 | Capital | 13 |
| Income | 45 | Production | 12 |
| Borrowing | 38 | | |
| Banking | 36 | | |

The term money was used the most often. This indicates its worth as an organiser of work, especially as Table 38 shows that it is connected to terms associated with a wide range of economic activities. Moreover, money is not seen solely in concrete terms, that is as notes and coins. The more abstract functions of money are identified, albeit in a simple way, but this does suggest the term could be used to encourage a more sophisticated form of understanding.

The personal aspects of money - savings, wealth, buying, spending etc. - are also preferred to its wider role. The connections between money and production and even selling are weak. This narrow perception of money could be challenged in an economics course, especially as the foundation for further learning is revealed by the simple level of abstraction shown in these results.

Table 40: Connections with the term 'Savings' (84)

| | | | |
|---|---|---|---|
| Money | 50 | Work | 16 |
| Investment | 43 | Capital | 14 |
| Borrowing | 38 | Costs | 12 |
| Banking | 32 | Good Life | 10 |
| Income | 31 | Needs | 6 |
| Profit | 24 | Consuming | 6 |
| Wealth | 24 | Selling | 6 |
| Buying | 21 | Production | 5 |
| Prices | 20 | Leisure | 4 |
| Spending | 18 | | |

One possible surprise in Table 39 is that money was most strongly connected to saving rather than buying. The reason for this is not clear. In Table 40, the obvious connection between savings and money, and investment and banking are shown. A connection is also made with borrowing, but not with buying or spending. The reason why money is so strongly associated with savings, given its importance in other ways, cannot be determined from these results.

Table 41: Connections with the term 'Leisure' (47)

| | | | |
|---|---|---|---|
| Wealth | 28 | Costs | 9 |
| Good Life | 24 | Consuming | 6 |
| Spending | 23 | Production | 6 |
| Money | 22 | Selling | 4 |
| Work | 21 | Savings | 4 |
| Income | 17 | Borrowing | 3 |
| Profit | 11 | Prices | 2 |
| Capital | 11 | Banking | 2 |
| Needs | 11 | Investment | 2 |
| Buying | 10 | | |

Considering the amount of leisure time available for this age group, it is perhaps surprising that this term was not used more often. However, as the results in Table 41 show, leisure is not just non-work. It is an activity that involves spending money. For many of this age group, non-work might mean doing nothing rather than having leisure time.

Table 42: Connections with the term 'Production' (42)

| | | | |
|---|---|---|---|
| Work | 25 | Banking | 7 |
| Selling | 16 | Leisure | 6 |
| Profit | 14 | Good Life | 6 |
| Income | 13 | Savings | 5 |
| Buying | 13 | Costs | 5 |
| Money | 12 | Spending | 5 |
| Needs | 12 | Prices | 5 |
| Capital | 11 | Borrowing | 3 |
| Investment | 10 | Consuming | 2 |
| Wealth | 8 | | |

The term production was also not widely used. It can be argued that this term should not be used as a course organiser, and should only be introduced at a later stage after a firm body of knowledge has been established. An alternative organiser is shown in Table 42. The term work has been discussed earlier, and it seems to have more meaning for this age range. In general, these results show the rather weak connection between production and other economic terms.

Table 43: Connections with the term 'Selling' (50)

| | | | |
|---|---|---|---|
| Buying | 31 | Needs | 10 |
| Money | 27 | Wealth | 10 |
| Spending | 22 | Borrowing | 8 |
| Profit | 17 | Savings | 6 |
| Prices | 16 | Capital | 6 |
| Production | 16 | Banking | 6 |
| Work | 15 | Good Life | 4 |
| Costs | 13 | Leisure | 4 |
| Investment | 12 | Consuming | 0 |
| Income | 11 | | |

The main connections with selling found in Table 43 are with buying, money and spending. The more remote connection with production is not so readily identified. It is therefore seen from the consumer's, not the producer's, perspective and becomes synonymous with buying.

The first four items in Table 44 indicate how investment is perceived. It is money that is saved, and in so doing it earns a profit.

Table 44: Connections with the term 'Investment' (77)

| | | | |
|---|---|---|---|
| Borrowing | 44 | Selling | 12 |
| Savings | 43 | Production | 10 |
| Money | 42 | Prices | 9 |
| Profit | 39 | Costs | 8 |
| Banking | 31 | Needs | 6 |
| Income | 28 | Good Life | 6 |
| Work | 15 | Spending | 4 |
| Buying | 15 | Consuming | 3 |
| Capital | 14 | Leisure | 2 |
| Wealth | 13 | | |

However, the strong connection with borrowing deserves more consideration. This might reflect an economic perspective which sees borrowing from banks as financing investment. If this view is correct, then a stronger connection between investment and production would have been made. Although some of the sample may see the connection in this way, another explanation is possible. Investment may be seen as money that is not only saved but also lent, hence the connection with borrowing. The interest that is paid gives rise to profits.

Table 45: Connections with the term 'Buying' (85)

| | | | |
|---|---|---|---|
| Money | 47 | Wealth | 17 |
| Spending | 47 | Needs | 15 |
| Prices | 42 | Investment | 15 |
| Costs | 34 | Borrowing | 14 |
| Selling | 31 | Production | 13 |
| Savings | 21 | Capital | 10 |
| Income | 21 | Leisure | 10 |
| Profit | 20 | Good Life | 7 |
| Work | 18 | Banking | 6 |
| | | Consuming | 5 |

Table 45 shows that buying is seen as spending money, paying prices, etc. Two comments can be made. The term consuming was the one least associated with buying - overwhelming evidence that this term should be discarded. Secondly, only a very weak connection was made with banking. This supports the argument that in the study of banks, emphasis should be placed on their role in financing both private consumption and capital formation, not on their personal services.

If these results are compared to those on spending in Table 33, many similarities are seen. The two main differences are that compared with buying, spending is seen to be associated more with wealth and leisure. It seems to have a more exciting connotation, suggesting the purchase of luxury goods. Although the connection between buying and needs is not very strong, the impression is that buying is seen as a more mundane activity.

Table 46: Terms included under the heading 'Shopping' (21)

| | | | |
|---|---|---|---|
| Prices | 20 | Consuming | 4 |
| Spending | 18 | Income | 3 |
| Buying | 18 | Leisure | 3 |
| Costs | 16 | Borrowing | 1 |
| Money | 15 | Profit | 1 |
| Needs | 9 | Good Life | 1 |
| Selling | 7 | Wealth | 1 |

Table 46 shows the connections with shopping. Although this term was not in the list of choices, it was freely chosen as a group heading by 21 of those who completed this question. Based though they are on such a small number, the results do support findings shown elsewhere. Shopping is perceived in terms of prices, money, spending and buying. It is not considered to be a leisure activity, but related to acquiring essentials.

This completes the observations and discussion concerning the specific results of the questionnaire. Some of the points made here will be referred to later when more general remarks will be made about the significance of these results.

## THE RESULTS AND PRELIMINARY DISCUSSION OF THE INTERVIEWS

The interviews were conducted during March 1984. They used drawings and photographs relating to seven economic terms (see below.) Shops and shopping (pictures A - E); Production (pictures F - H): Banks (pictures I - K): Wealth (pictures L and M): Costs (pictures N and O); Money (pictures P - R); Standards of living (pictures S (i) - (ix). Each interviewee was asked questions about the pictures and their responses are discussed under the sub-headings below.

### 1) Shops and shopping.

Interviewees were asked whether the photograph in picture (A) was a shop. All agreed it was, although one initially said it was a supermarket, before defining this as a large shop. The most popular reasons for identifying this as a shop were the prices in the window and the shop's name. Other answers referred to advertisements, the people inside and the shelves in the shop. When asked why people go shopping, all the interviewees said to buy food and clothes. References were often made to necessities or 'everyday things'. When luxuries were mentioned, the most identified items were drinks, sweets and cigarettes. Asked whether shopping was enjoyable, most said it depended on what was being bought. They found shopping for 'everyday things' boring, while most said they enjoyed shopping for their own clothes, or if they were buying things they did not really need. It was also enjoyable if they had a lot of money to spend.

When shown picture (B), the interviewees were asked whether the building for sale was a shop. Twelve said no, eight yes. Those that answered no said that as the shop was closed down, it was not selling anything and was therefore no longer a shop. Of those who said it was a shop, seven referred to the building still being a shop and one said it was in a row with the other shops.

There was agreement that picture (C) was a shop. The reasons given were that it sold cookers, or was a gas showroom. One said it was the L.E.B. There was also agreement that picture (D) was a shop because it sold clothes. Reference was also made to the 'pay here' signs. The absence of people did not matter, the shop was clearly seen as being closed at the time. They also agreed that picture (E) was not a shop, mainly because the clothes were not being displayed - they were just hung up on rails. Others referred to the lack of space to walk around or the absence of prices. Many identified this as a warehouse or factory where the clothes were being stored before being taken to the shops.

These answers show that for these children, shopping is a rather boring activity undertaken to purchase essentials. The more pleasurable aspects of shopping were not immediately seen as 'shopping' in the same way.

They also show that shops can be perceived in two ways. One views shops as buildings, the other recognises the functions of shops. However, this distinction is not uniform. Thos who identified the shop by being a building in picture (B) referred to selling things as a characteristic of shops in other pictures. Similarly, those who rejected picture (B) as a shop because it was not selling anything ignored this in picture (E), choosing instead physical characteristics to identify a shop.

These answers can be analysed within the Piagetian frame of reference in that they relate to concrete and abstract criteria. However, although many of these children identified shops by referring to abstract criteria in one question, they preferred the more concrete aspects of shops in others. This tends to support the view that although some children of this age have the ability to answer questions at the formal-operational level, they may not always choose to do so, sometimes preferring the more obvious, common sense explanations.

2. Production

There was general agreement that the activities shown in picture (F) involved production. This was described as making things - coal, cars, food. Only one said the coal miner was not producing because the coal was already there and nothing new was being made. Two said the farmers were not producing, only 'picking things'.

There was more disagreement concerning the activities in picture (G). While 12 pupils saw building an extension as production, 8 did not and only half saw decorating as production. Those that said production was taking place referred to the new things being made - a new room, a clean wall. The reasons for not seeing production taking place fell into two groups. One, concerning decorating, said that as nothing extra was being made, it could not be production. (This answer was also given by 2 who saw building an extension as production). The other answer, mainly but not exclusively given to the extension picture, referred to the D.I.Y. aspects of the activity. Production in this view only takes place if something is sold. As these pictures showed people doing things for themselves, they were not producing.

Of the two photographs in picture (H), 13 pupils saw the V.D.U. operators as producers, while 10 saw production taking place in the hospital ward. The V.D.U. operators were seen as producing data or information. However, the other 7 saw information only being stored, or the work as helping production. While 10 pupils saw hospitals as producing "well patients", ten said that nothing was being made. Although hospitals helped people, it was not production.

When asked to define production, all said making things. Some clarified this by saying making things for other people, or making things to sell.

A clear idea of how these children perceive production therefore emerges from their answers. Production is making things. Even when services like V.D.U. operators or hospital services are identified as production, they are identified because of their physical output - data, well patients. The direct service - helping - is not seen as production. Something tangible has to be seen if production is taking place. There are two possible explanations for this. One relates to terminology. In this view, once children have been taught that in economics, production refers to the provision of both goods and services, this would be understood. The other view emphasises perceptions. It can be argued that production is largely perceived in concrete terms. The ability to understand that production involves services requires an additional intellectual step from the concrete to the abstract. While children of this age may be capable of this step, they may prefer to keep within a more common sense framework - hence hospitals are producers not because they perform a service, but because they produce "well patients". If this view is correct, the simple concrete perception of production will not be as easily challenged as it would be if the problem was just one of terminology.

Production is also identified when something is being made for sale. This view ignores all work done by people directly to satisfy their own needs. It reflects the market-orientated view of production identified earlier - production for profit or exchange value, rather than for need or use value. While incorporating the formal economy, it limits the view of production in a way probably incomprehensible to, say, a subsistence farmer. It is a view, not based on any abstract idea of production which would also relate to past societies, but located firmly within our own present day market economy.

Following Watts, at least three alternative frameworks can be identified.

i) Production is a concrete activity - making things.

ii) Production is making things for sale

iii) Services can be production when their 'output' is seen in concrete terms.

Although these frameworks relate only to concrete-operations, they are slightly different perspectives of the same thing. This suggests that just because children are operating on the same intellectual level, it does not mean they see the same things in the same way. The framework approach helps direct attention to the rich and complex nature of different explanations.

3) <u>Banks</u>.

The drawing (I) was identified by all the interviewees as a bank because of its name. One said it was the 'listening bank'. In picture (J) the connection between banks and cheques was made. However, while 17 pupils said cheques could be used to withdraw money from a bank, only 3 said cheques could be used to buy things from shops, the money being transferred later. While credit cards and banks were connected by 18 of the interviewees, 6 said they were used to get cash from a bank using automatic cash dispensers; 5 said banks issued the cards; 4 said they were used with a cheque, and only 3 identified their use in buying things without using cash.

Twelve pupils connected money and banks by saying money could be withdrawn from them, and ten said money could be deposited with a bank. Saving and investment were identified by 11 interviewees, 7 using the term investment to describe the process of gaining interest on deposits. Four pupils also identified the lending function of banks.

In picture (K), 15 of those interviewed connected the house for sale with a bank. They all identified the bank as a lender of money to buy the house, 9 voluntarily using the term 'mortgage'. Five said there was no connection.

The factory and a bank were connected by 17 pupils, the other 3 saying there was no connection. Of the seventeen, 12 said a bank loan could be used to start a business, buy materials, etc. Six said that profits or money could be paid into a bank. The bank's service in paying wages was identified by one person.

A connection between exports and banks was made by 8 pupils, 5 others saying there was no connection and another 7 saying they did not know. Only two, however, could not say what exports were. Of the 8 who identified a connection, 5 said bank loans could be used to help the firm export, 2 said that money earned from exports could be paid into a bank, and one said that a bank could "handle the money."

These answers emphasise the personal aspects of banking - savings and withdrawing money. The wider role of cheques and bank loans were identified by a relatively small number. The consumer aspects of banking were associated with other economic agents like firms and factories. The answers also confirmed the association of savings with investment, the key factor in investment being the interest earned. While the complex interrelationships between deposits and loans, involving both the personal and corporate sectors, were not readily identified, this may have been due to the questions being insufficiently penetrating.

4) Wealth

The answers relating to picture (L) clearly show the association between wealth and money. Eight pupils said the machine at The Mint was making wealth because wealth is money; 4 were unsure because it was unclear who was receiving the money and therefore where the wealth was going, and 3 said wealth was not being created because nothing was being sold. The other 5 gave varying reasons for wealth not being made - workers not being paid much for that kind of work; as people spend money they become less wealthy; money is needed to get the coins that are being made.

Bread was identified as wealth by 13 pupils because it could be sold for money. The term profit was related to wealth in this context. The 7 who said there was not a connection between bread and wealth gave varying reasons - bread is cheap to buy; people buy bread so wealth is lost.

The car factory was seen as creating wealth by 15 pupils, because the car would be sold for money. Four interviewees said wealth would be lost as people would have to pay money for the car, and one said people would have to be wealthy to be able to buy the car.

In picture (M) all 30 interviewees said money was wealth. Nineteen also said gold was wealth because it was a precious metal and could be sold for money. The lone dissenter said it was not wealth because it could not be spent. It was unanimous that oil was wealth as it could be sold for money. One pupil referred to "rich Arabs."

Twelve pupils did not see the hospital as wealth, as nothing was being sold and no profit made. Of the 8 who said it was wealth, 4 referred to people 'getting better' as a type of wealth as in welfare. The other 4 said it depended on whether it was an NHS hospital. If it was, then it would not be wealth, as its services were free. But if, as a private hospital, charges were made, then it would be creating wealth.

These answers show that wealth is created when things are sold for money. It is also associated with expensive items. However, because wealth is money, some see the spending of money leading to a loss of wealth. Alternatively, spending money increases wealth for others because they sell things for a profit. Wages are also mentioned as an aspect of wealth. Once again, alternative frameworks begin to emerge.

Despite these differences, the general view is that wealth is money and that wealth is produced when things are sold for money. It is regretted that there were no questions on wealth creation in non-market economies to reveal any underlying assumptions of the wealth/money association.

5) Costs

The wording of questions relating to picture (N) were crucial. Sweets were used to illustrate the drawing of the conveyer belt. When asked "What are the costs of producing the sweets?" answers immediately identified materials and labour ingredients. However, when asked "What are the costs of the sweets?" the usual answer was "about 5p or 10p." This indicates the association of costs with prices. But when asked "Would the sweets sell in the shops for 5p, 10p etc?" the answer was negative because the firm needed to make a profit. Similar answers were given to questions concerning the factories which were said to be making jumpers. No clear association between costs and prices was therefore shown. However, when shown the two jumpers and asked "These are the same jumpers, in the same shop but one is a week later - have costs risen?" sixteen immediately said "Yes". When asked to explain, reference was made to prices. This 16 included most of those who had identified a profit in the first two drawings. Of the other 4 pupils, one clearly said that the shop had increased the price to make more profit and that costs had not risen; another referred to inflation; the remaining two were confused - they could see that costs had not risen but could not explain the £1 difference in the jumpers.

When shown picture (O), the question asked was "What would be the cost of making the chair?" Seventeen pupils referred to materials, tools etc.; one said nothing, as the person had all that was needed and four mentioned time spent making the chair.

From these answers, there seems clear evidence that costs are associated with prices, although this can be negated by referring to costs of production rather than just costs. When asked, most could identify the difference between costs and prices, most referring to profit (although one called this interest!).

The notion of opportunity cost was not identified in picture (O), although time was mentioned. This perception of opportunity costs in terms of time might be considered when first discussing this idea, especially as the danger of illustrating it through shop purchases with a limited budget tends to reinforce the costs = price misconception.

6) Money.

Picture P(i) was introduced by saying the two people exchanged their goods. When asked if money was being used, all 20 said it was a swap without money. Similarly, all 20 identified the £5 note as money in P(II) . They were then asked whether this would still be money if the shopkeeper refused to accept it. Seventeen said yes - "It can't stop being money." One was unsure - "No, well yes, but not in that shop." Two said no "It can't be used, it's worthless."

In picture (Q) all 20 interviewees identified the £5 note as money. Fifteen saw gold as money but only because it could be sold for money. Of the other five, two rejected it as money because it was metal and three because it could not be used to buy things. The dollar bill was identified as money. Salt was rejected as money by 18 pupils, the other two saying it was money in other countries.

When asked whether money was being used in picture (R), opinion was equally divided. Ten said only beads were being used and "beads are not money." Two said beads were being used instead of money while 8 identified the beads with money - "beads are the coins." These 8 said that beads were being used to buy things.

It is possible to see two perceptions of money in these answers. (1) Money is seen as concrete objects - notes and coins. Things are money if they look like those objects. (2) Money performs an abstract function - a medium of exchange. In this view, money can be any object, providing it performs the functions of money - the "money is what money does" idea found in textbooks.

7) Rich and Poor Countries.

The interviewees were shown pictures S(i) to S(ix) . They were then asked to rank them in order, richest to poorest. If the pictures gave no impression of wealth they were to be discarded. Questions were then asked to find the reasons why the pictures were ranked in that particular order.

Thirteen pupils included the following three pictures in their four poorest countries: (i) tea pickers, (ii) tractor driver, (v) machine operators. Of the richest four countries, 18 pupils chose (iv) production line with robots (six said this was the richest); 15 chose (vii) dock scene; 14 chose (vi) shop; 13 chose (iii) car production line; 9 chose (viii) garden; and 6 chose (ix) orchestra.

The general view that emerges is that rich countries are ones with industry. They use machines rather than manual labour. The term 'developed countries' was used, having apparently been discussed in geography lessons. Only rich countries would have gardens, orchestras and supermarkets. There are two views as to why this should be so. (1) Money is needed to buy machines, robots, gardens etc. Therefore only rich countries can afford them. (2) A country becomes rich by producing expensive things like cars with this equipment.

Reference was also made to the physical characteristics shown in the picture - well dressed people in the orchestra and in the shop; good

soil in the garden; hard work; the buildings and the amount of land.

Poor countries were seen as those using 'hand' labour. There was not much machinery or the machines were small or old. These were agricultural not industrial countries. They would not have gardens or orchestras. Two views again emerge as to why this should be so. (1) Crops, clothes etc. cannot be sold for much money so the countries remain poor. (2) Poor countries cannot afford luxuries like gardens or the range of goods found in supermarkets. They can, however, afford to grow crops because these are cheap or, as in the case of tea bushes, even free!

Physical characteristics were also identified - poor appearance of the countryside; crowded factories; flat, poor fields. India was mentioned five times as a poor country. When asked about climate, the usual answer was that hot countries were poor because it was difficult to grow crops in such a climate.

These answers can be classified according to three frameworks. (1) A country is seen as rich or poor according to the commodities it produces. Rich countries produce expensive goods. (2) A country is rich or poor according to the level of industrial development. Rich countries have the wealth to buy robots, luxury goods etc. (3) Countries are seen as rich or poor according to physical characteristics - overcrowding, space, climate.

Although in general, industrialisation was identified as the crucial factor, a distinction between cause and effect was not made. More intensive questioning would have been necessary to identify the complex interrelationships underlying these views.

This concludes the preliminary discussion of the test results. They are analysed further in the next section when more general conclusions are suggested.

## FURTHER ANALYSIS OF THE RESULTS

This section analyses the results found above by separately considering five themes. The first considers how far the results of the two tests support one another. The second discusses the practical results of the tests and whether they offer any guidelines for course design. Section three considers the framework approach and its implications for this case study. The fourth section discusses whether these results show responses of a qualitatively different nature. The last section considers how far childrens' meanings of economic terms are influenced by their social environment.

### 1) The reliability of the results

In general terms, the results of the two tests are confirmatory. Both tests showed that shopping is considered a rather tedious activity and is associated with necessities and prices. Similarly the tests revealed a strong connection between production and manufacturing, although the interviews indicated that it has more complex meanings.

Similar results were recorded regarding banks. These are essentially perceived as saving institutions and the term 'investment' was shown to be confused with 'savings'. Both tests reported that wealth is per-

ceived in terms of income and money. However, the interviews had the advantage of allowing the nature of these connections to be explored. The association of 'costs' with prices was also reported by both tests. Although the costs of production were not identified in the questionnaire, the interviews showed that this was not due to insufficient knowledge. When asked, the interviewees easily identified these costs. However, even the interviews showed that when used alone, the term 'costs' is seen as equivalent to prices. The tests showed similarities concerning money, although the interviews revealed more subtle differences in meanings than the questionnaire. Lastly, both tests showed that differences in living standards between countries are seen in terms of industrial development. Although not completely successful, the interviews did reveal something of the nature of these complex interrelationships.

To conclude, the results are generally reliable as both tests recorded broadly similar answers. The study shows the relative costs and benefits of using questionnaires and interviews. Whereas the questionnaire was given to a large sample of the total target population, the results did not always reveal subtle differences in meanings. The interviews had an advantage in this, but only a relatively small sample was tested in this way. The two methods, however, were successfully used to complement each other.

2) Course guidelines

The results clearly show that some widely used economic terms are completely unfamiliar to children of this age. There is a danger that persistent use of these terms will make the subject even more difficult to understand. This is not to argue that technical terms should not be used, but that their introduction must be carefully planned.

The two terms which best illustrate this argument are 'consuming' and 'production'. These terms could be replaced by 'buying' and 'work'. Although in a strict economic sense these terms do not have the same meanings as consuming and production, their introduction would reduce the danger of confusing our students from the very beginning. Instead, a thorough discussion of these familiar terms would prepare the ground for the later introduction of the more 'economic' terms.

These are, however, only the most obvious examples of problems related to the terminology used by economics teachers. This study shows that children and teachers attach different meanings to a number of other terms, for example costs, investment, wealth, production, profit and capital. It also suggests that these misconceptions are strongly held. As economics educators we must carefully challenge these views, appreciating why they are held, rather than thoughtlessly dismissing them as 'wrong'.

This study also reveals the extent to which students compartmentalise the economic world. Courses that separate the study of economics into, for example, 'consumption' and 'production', only reinforce this view. It can be argued instead that a major feature of introductory economic courses should be the emphasis on integration and interdependency between different economic factors; not their separateness. Course "organisers" have a major role, as familiar terms which can both introduce topics and act as forces for integration. The terms best suited to this role, as revealed in this study are: work; money; earnings and banking. In particular, an introductory economics course organised around the uses of money, how it is earned and spent, the problems of poverty etc.

might have some appeal to 14 year olds. The important role performed by earnings in integrating the different economic worlds found above should similarly not be overlooked.

3) The Framework Approach

This approach was found to be particularly valuable, especially when considering the results of the interviews. Its main strength is the subtlety it encourages in the analysis of children's responses. It directs attention to differences in these responses and suggests that teachers can learn something even from 'wrong' answers. This is not to ignore the danger of giving equal validity to each framework. There are incorrect answers and misconceptions and these should not be ignored. The teacher's 'framework' is the correct one in terms of the subject. However, acceptance of these arguments does not reduce the effectiveness of the general approach outlined here. Frameworks can show the precise manner in which misconceptions are held and therefore suggest how they can be challenged. Awareness of 'alternative frameworks' would allow them to be incorporated into teaching/learning strategies.

This study revealed 'alternative frameworks' in the following areas:

(a) Shops. Two frameworks were identified

(i) Shops are buildings. (ii) Shops perform certain functions.

(b) Production. Three frameworks were identified.

(i) Production is making things. (ii) Production involves selling things. (iii) Production includes services but only if an output can be identified.

(c) Banks. Two frameworks were seen.

(i) Banks offer the consumer services. (ii) Banks have a wider professional role.

(d) Wealth. Three frameworks were identified.

(i) Wealth is accumulated when goods are purchased. (ii) A firm accumulates wealth when it sells things. (iii) Wealth is lost when money is spent.

(e) Costs. Two frameworks were seen.

(i) Costs are equal to prices. (ii) Costs of production are identified incorporating the notion of profit.

(f) Money. Two frameworks were seen.

(i) Money is notes and coins. (ii) Money is identified by its functions.

(g) Differences in living standards between countries. Although the crucial role of industrialisation was identified, three frameworks exist.

(i) The causes of wealth are identified e.g. industrialisation. (ii) The effects of wealth are identified e.g. the ability to purchase expensive goods and services. (iii) Physical characteristics are identified e.g. climate, size, physical relief.

Frameworks could also be used to interpret the results of the questionnaire. For example the different ideas concerning the 'Good Life' - money, leisure, good home, health - might relate to alternative frameworks. Similarly, the household view of costs reported in the questionnaire constitutes another framework. Frameworks relating to capital, profit, investment and leisure can also be identified.

Given the nature of the answers to a questionnaire it is only possible to indicate areas where this approach might be successfully applied. The interviews clearly show the approach is useful and its wider use is recommended.

4) Qualitative differences found in the responses

There were noticeable differences in the degree of sophistication found in answers to some of the questions. For example, the answers to the problems concerning money showed:-

(i) Some children identify money through its physical properties - notes and coins.

(ii) Other children identify money in abstract terms through the functions it performs.

(iii) Some of the children in (ii) above did not generalise this view to another example.

Question 2 of the questionnaire showed children have different views concerning the integration and inter-dependency of the economic system. Only a small proportion of the sample identified a substantial degree of interaction. Some children drew very few connections, while the majority identified a limited number of inter-relationships.

Many of the answers were based on the child's own experience of the term. This led them into personalised responses, not abstract ones. For example, shopping is boring, costs are prices, profit is any money earned, banks are savings institutions, shops are places where things are bought rather than sold.

Responses often identified only one aspect of an activity, rather than an inter-relationship. The examples of banking and shopping illustrate this. Banks were often seen either as safe places to keep money or as places from where money can be withdrawn. Similarly shops were seen as places where things are bought, with no connection seen between them and their sources of supply.

In conclusion this study indicates

(a) Children of the same age give responses of a qualitatively different nature to the same question.

(b) The same child can give qualitatively different answers to different questions.

## 5) The importance of the social environment

The two previous sections are concerned with cognitive processes. It can be argued, however, that a complete analysis of answers about economic terms must include a consideration of the social processes which influence these answers. Unlike the natural sciences, where understanding is solely an intellectual problem, understanding the social world differs according to how society is perceived. For example, laissez-faire capitalism is seen very differently by a Marxist economist, a liberal Keynesian and a rational expectations theorist. Their 'understanding' of the economy is not only dependent on their cognitive processes but also on their socio-political values and attitudes, and these are the product of social processes not intellectual ones. It would therefore be expected that children's perceptions of their social world would not only be influenced by their intellectual development, but also by the social processes that constitute their socio-political environment. In this context the two main features of this study are -

(a) the importance attached to money;

(b) the distinction made between production and consumption.

These will be discussed below.

(a) The importance of money. Many of the items were seen in terms of money, for example work, profits, the good life, shopping, investment. One question revealed that money was the most familiar term. It is apparent that this cannot relate to economics understanding as such, as the market economy, with money as its central feature, is a relatively recent phenomenon. The importance given to money is temporally and spatially limited to the industrial stage of economic development associated with capitalism. It is of course speculation whether a future state of abundance will reduce the present importance of money. The point is that the responses concerning money found in this study are a product of present capitalist society.

(b) The distinction between consumption and production. Although this developed alongside the increasing use of money, it is useful to discuss it separately. The development of capitalism had as its central feature the use of wage labour. Labour became another commodity, its occupational and geographical mobility determined by its price. The separation between consumption and production emerged. It is easy to see these as two distinct economic activities if labour is alienated from its product, with the market allocating rewards.

This distinction has been amplified in more recent times by two developments. First, a level of individual consumption can sometimes seem unrelated to productive activity. When government supplements a person's income, consumption increases without this necessarily being accompanied by an increase in that person's productivity. Secondly, as the tertiary sector has grown, production, as seen in terms of manufacturing, has declined. Yet consumption has dramatically increased. The widespread use of advertising, the development of new products, the revulsion against poverty, all led to a period of economic development, sustained by the increase in levels of personal consumption.

This period of economic expansion also involved cultural changes - in particular the widespread acceptance that human satisfaction comes from the purchase of material objects. The process whereby these values and attitudes became accepted is, however, a matter of controversy. The socialising influences of the family, school, peer groups and the mass media are often identified. The extent to which children's responses to tests like those in this study differ according to socio-economic position therefore needs greater research. Similarly the wider influence of the 'Public Mood' also deserves attention. Gramsci (1971) believed that the values and attitudes of the most powerful sections of society permeated the whole social structure. In this way they achieved hegemony over society without needing to protect their position by resorting to more open methods of coercion. The meanings children attribute to economic terms might illustrate this as they indicate wider cultural pre-dispositions.

This completes the analysis of the test results. In sum,

(1) The results are reliable and they offer guidelines in some areas for course design.

(2) The results show responses of a qualitatively different nature, and the framework approach developed by Watts can be used to analyse these different responses.

(3) The results show that wider social pocesses have to be considered when analysing responses to economic questions.

## CONCLUSIONS

This section evaluates the tests used in this study and indicates possible areas where further research may be profitable.

### (1) Evaluation of the tests

Reference was made above to the complementary nature of the two tests used in this study. However, careful analysis of the results showed certain deficiencies in both the questionnaire and the interviews.

The main weakness in the questionnaire design was the incomplete cross-referencing of certain terms. This made it more difficult to check the validity of initial responses to the questions. For example, in the money question (number 9) 'Prices' and 'Spending' were not included in the list of choices. Supporting evidence for the analysis of question 10, especially concerning tables 26 and 33, was not therefore available. Similarly the term 'shopping' was not included in the list of terms for questions 10. Yet it was seen that several of the respondents voluntarily used this term as a group heading.

Perceptions of the 'Good Life' (number 1) would have been made clearer if the term 'money' had been included as a choice item. Without this term, inferences about the importance of money had to be made.

The interviews showed that for some of these children, 'production' involved selling the item made. It would therefore have been useful for the term 'selling things' to have been included as one of the choice

items in the production question (number 4). Finally, for the purpose of complete cross referencing, the terms used with 'production', 'banking' and 'money' in question 10 should have been included in the questions relating to these items (numbers 4, 5 and 9).

The major weakness shown by the analysis of the interviews was the lack of penetrating questions which might have revealed more complex inter-relationships. Three main examples of this occur. The questions relating to banking (letters I-K) did not reveal how far the role of banks as financial intermediaries was really understood. Similarly, questions concerning wealth (letters L and M) in non-market or pre-industrial economies may have revealed non-monetary aspects of wealth. Finally, the questions concerning rich and poor countries (letter S) could have clarified the causes and effects of wealth rather more than they actually did.

(2) Further research

Despite the above weaknesses, the complementary nature of the two tests is seen as a major strength of this study. Further studies using these techniques might be useful, to refine both the questionnaire and interview questions. Interviews can produce important insights into children's perceptions and these could be tested for more general validity through a questionnaire. Similarly a questionnaire can reveal broad areas of interest which could be investigated further using interviews.

This study revealed a number of specific cases which would benefit from further investigation. In particular, children's perceptions of rich and poor countries and their perceptions of government could be more thoroughly researched.

Apart from these specific areas, two further aspects of this study could be expanded. First, the idea of frameworks could be developed. Watts has shown the potential for this approach in Physics and there is no reason why this type of research should not be used in studies related to economics. This study has indicated some possible frameworks relating to certain economic terms and further research could expand upon these ideas.

The second possible area of research is how far children's responses to questions about economics are influenced by their socio-economic background and environment. Sample of children from different backgrounds, living in different regions could be studied.

This study has therefore shown how rich and complex are the associations between certain economic terms as perceived by 14 year old children. Further research into these perceptions would bring substantial rewards and further the study of children's economic understanding.

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The picture tests used in the interviews

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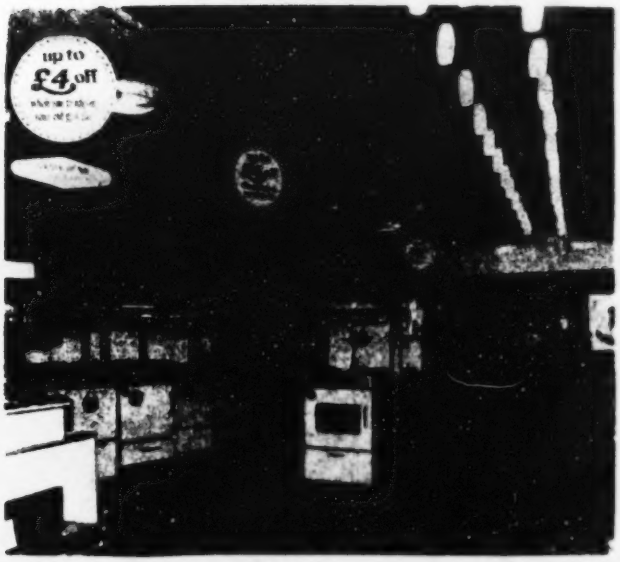


(C)

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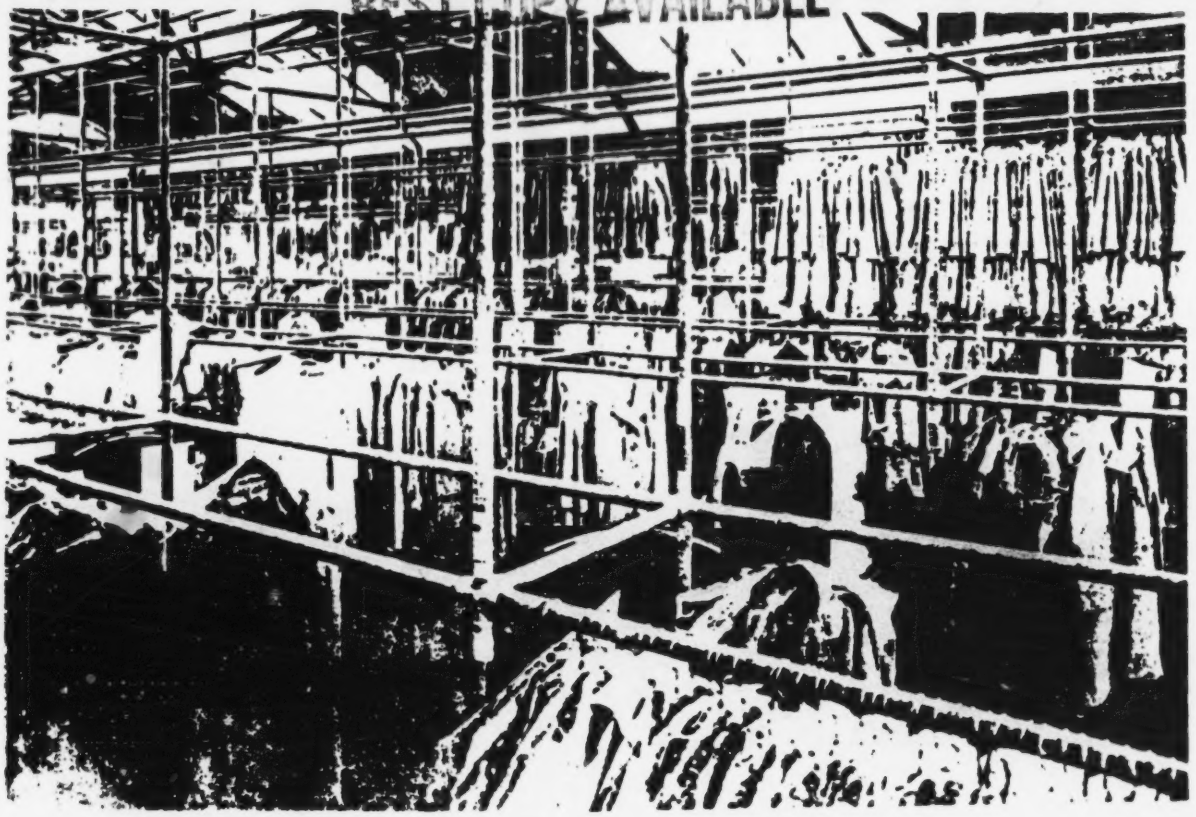

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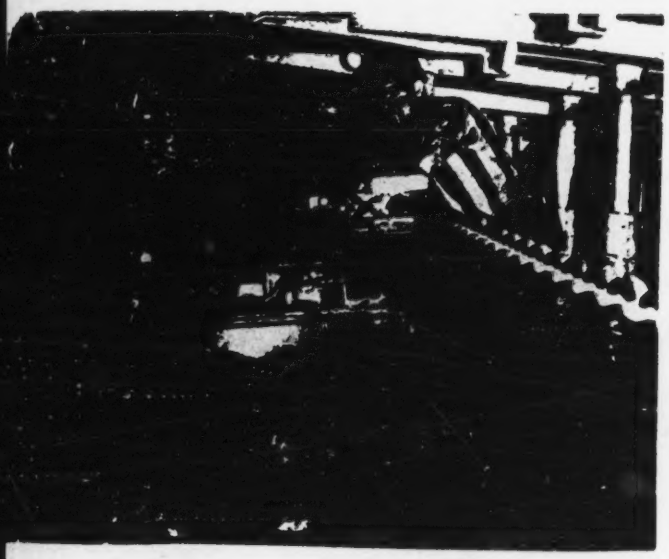

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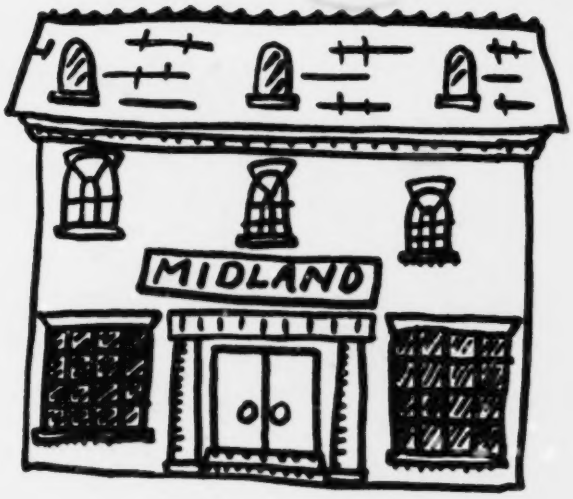
G(i)

H(i)

H(i)

(I)




J(i)

J(ii)

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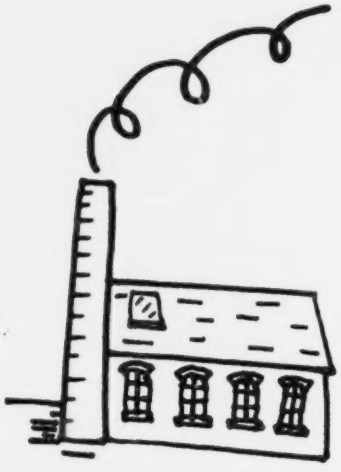
i)

K(ii)



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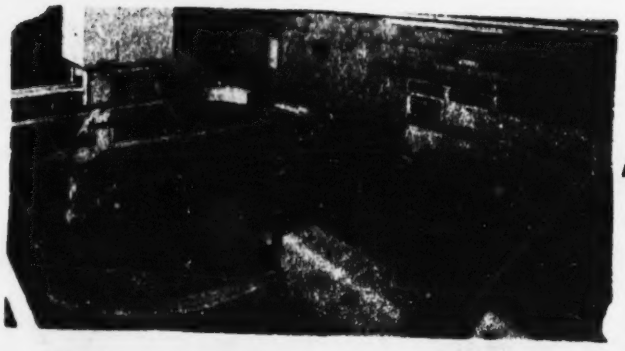

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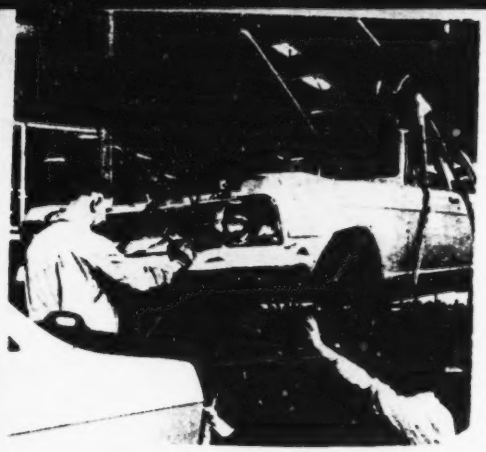

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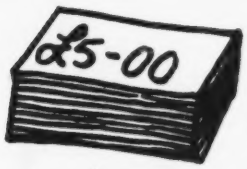


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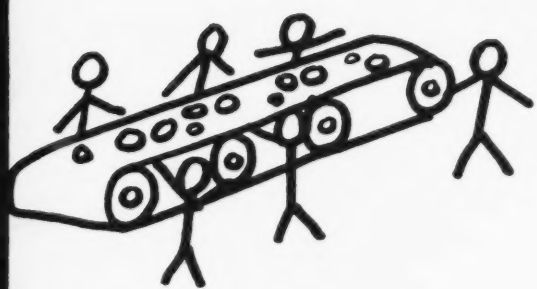

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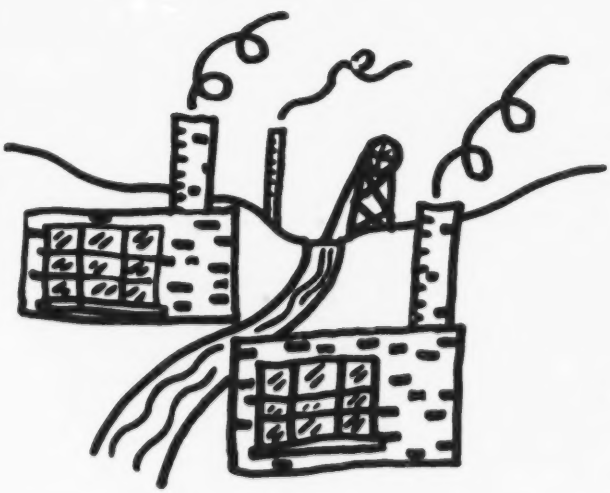

N(ii)

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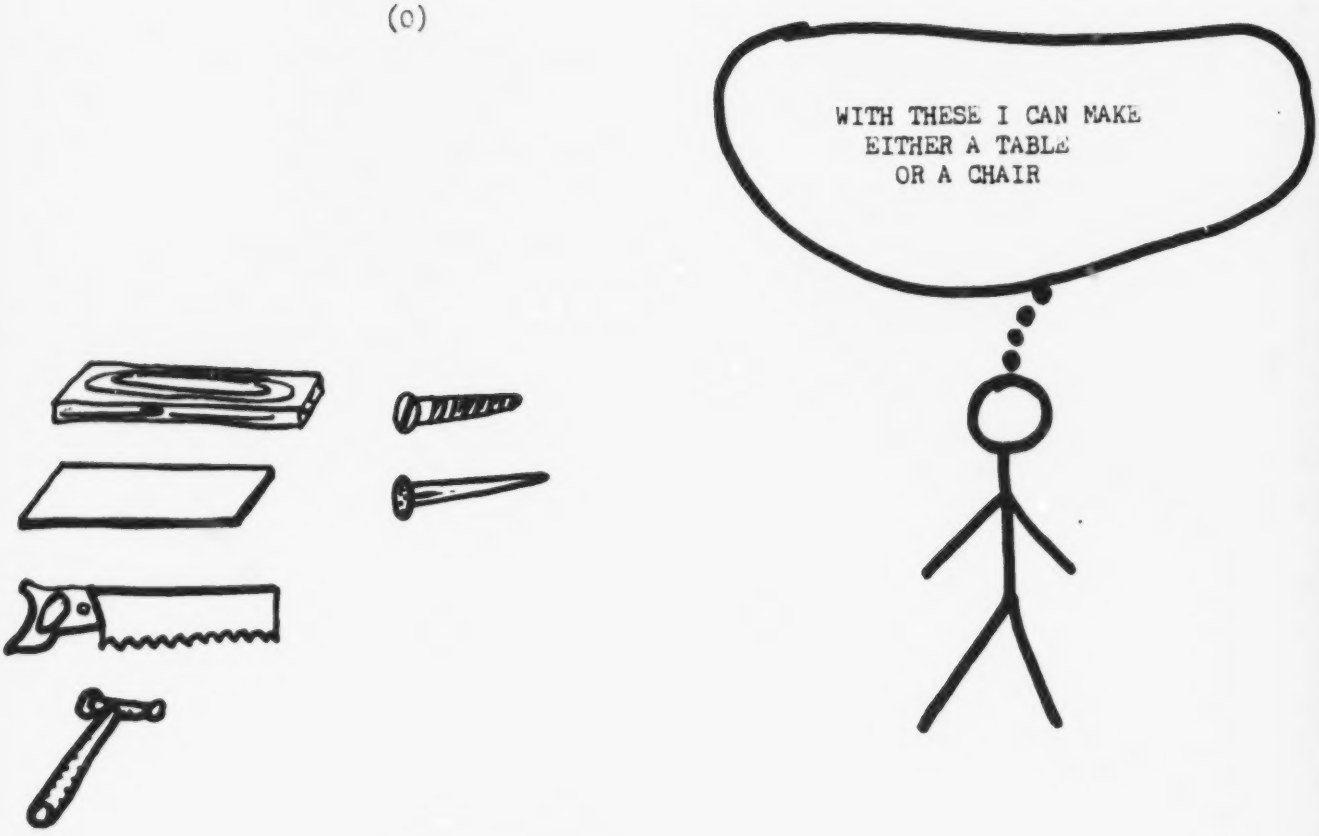
WITH THESE I CAN MAKE
EITHER A TABLE
OR A CHAIR

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I WILL SWAP MY
BOOK FOR YOUR RECORD
BOOK
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P(i)

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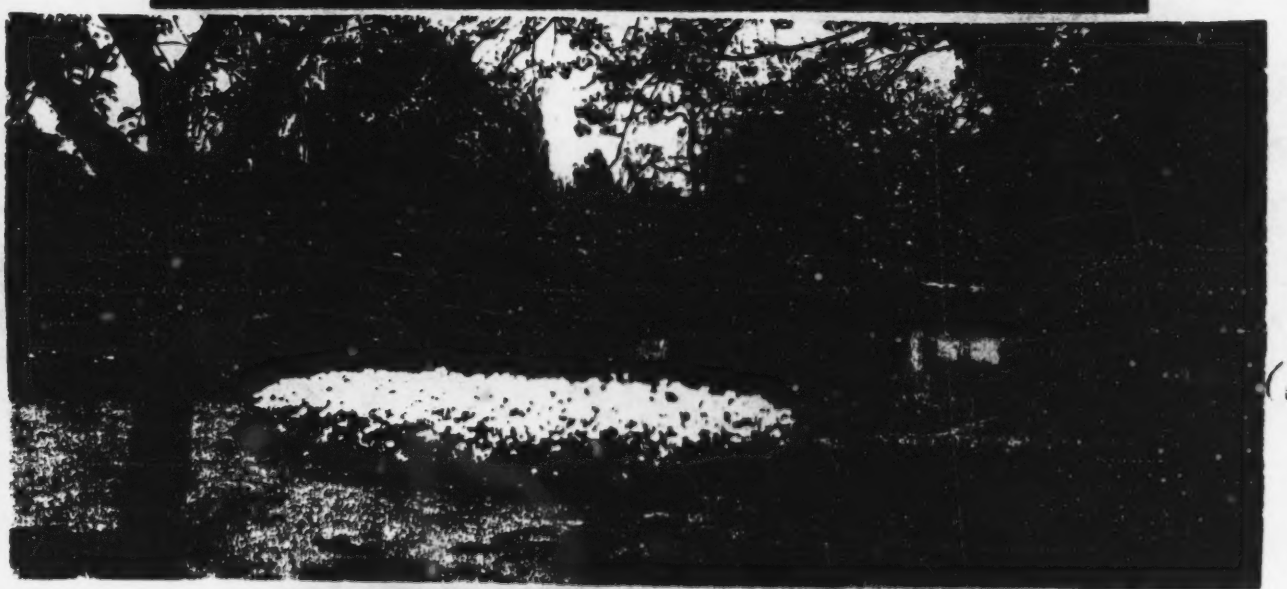

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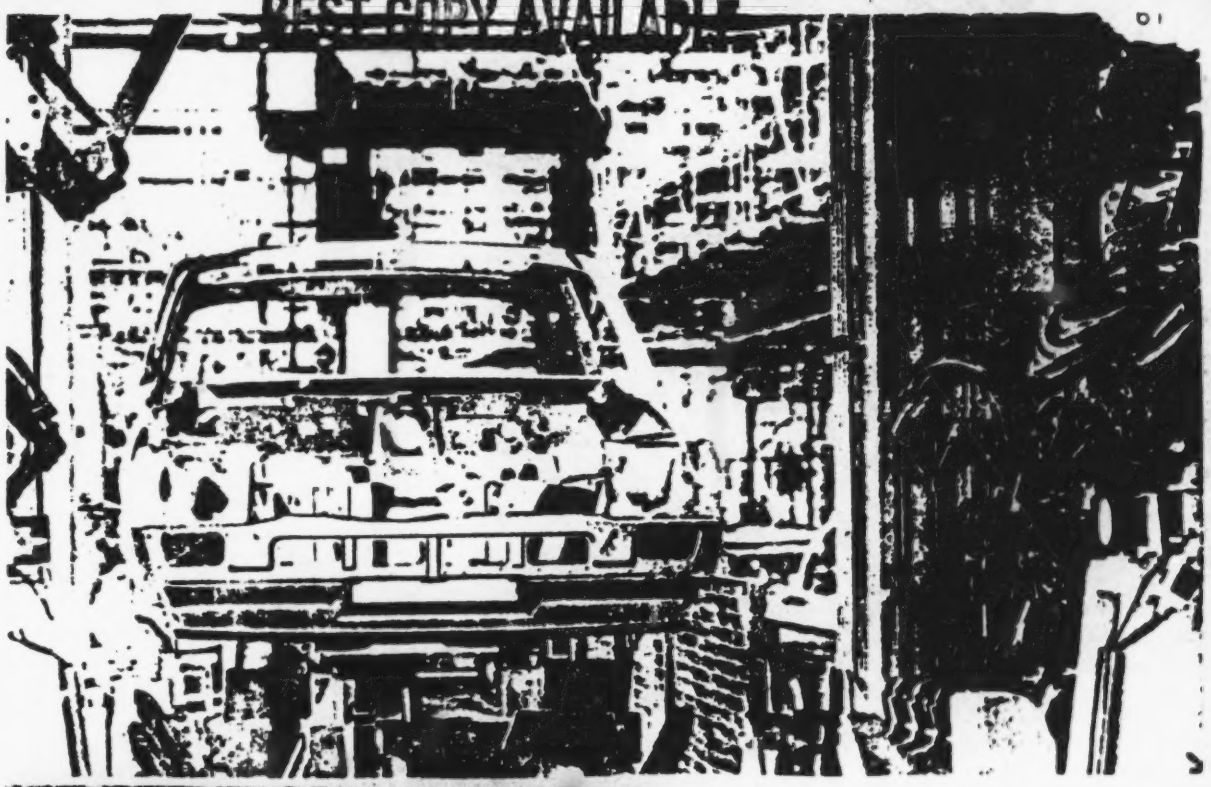

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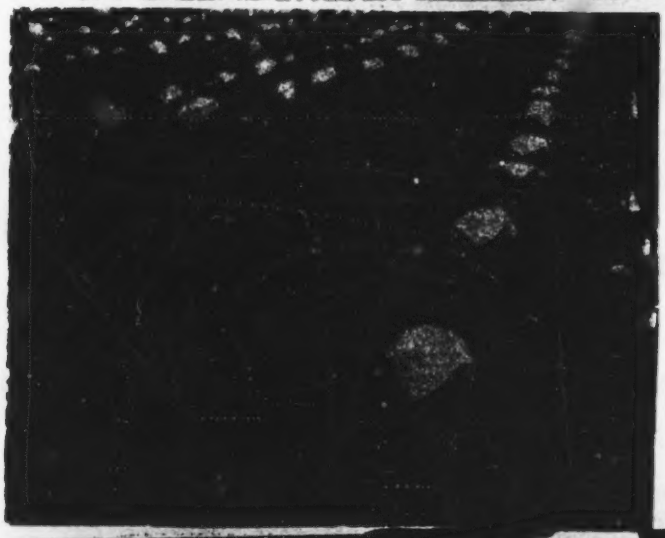

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S(ii)

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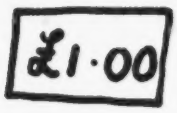


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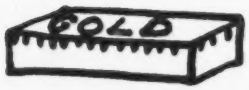
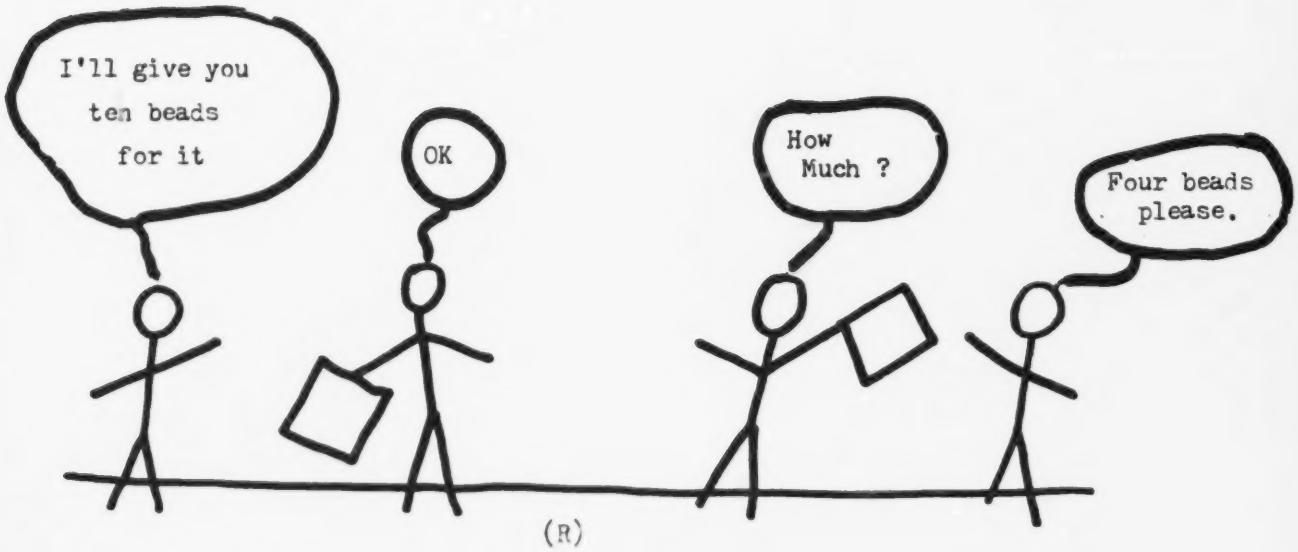



Q(ii)

Q(iii)

Q(iv

Q(v)




(R)

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